

APPENDIX C

- Wetlands Investigation Memorandum
- Agency Coordination Regarding the Jurisdictional Determination
 - Draft Joint Permit Application

Mary Ashburn Pearson

From: Mark Metzler <mmezler@rettew.com>
Sent: Monday, October 24, 2016 12:21 PM
To: Mary Ashburn Pearson
Cc: Mark Metzler
Subject: FW: Carroll County Regional Airport (CCRA; Carroll County, MD) - Summary of Areas Viewed During JD Field Visit (9/23/2016) (UNCLASSIFIED)

FYI

From: Thomas Stich
Sent: Monday, October 17, 2016 2:47 PM
To: Mark Metzler <mmezler@rettew.com>
Subject: FW: Carroll County Regional Airport (CCRA; Carroll County, MD) - Summary of Areas Viewed During JD Field Visit (9/23/2016) (UNCLASSIFIED)

Mark,

If I interpret this correctly, we should be good to go regarding the JD forms.

Kind regards
Tom

RETTEW

We answer to you.

An *Engineering News-Record* Top Design Firm

Thomas Stich
Senior Environmental Scientist
3020 Columbia Avenue
Lancaster, PA 17603
Office: 717.394.3721 x3287
www.rettew.com

From: Bole, Donald R NAB [<mailto:Donald.R.Bole@usace.army.mil>]
Sent: Monday, October 17, 2016 2:43 PM
To: Frazier, Mary A NAB <Mary.A.Frazier@usace.army.mil>
Cc: Thomas Stich <tstich@rettew.com>
Subject: FW: Carroll County Regional Airport (CCRA; Carroll County, MD) - Summary of Areas Viewed During JD Field Visit (9/23/2016) (UNCLASSIFIED)

This message originated from outside your organization

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Hi Mary,

Please see Mr. Stich's field notes for the Carroll County Regional Airport. We (USACE) did not make any changes to any of the stream or wetland boundaries or bog turtle habitat determination.

Tom - Thanks for the summary of field notes.

Thanks,
Don

-----Original Message-----

From: Thomas Stich [<mailto:tstich@rettew.com>]

Sent: Tuesday, September 27, 2016 1:53 PM

To: Bole, Donald R NAB <Donald.R.Bole@usace.army.mil>

Subject: [EXTERNAL] Carroll County Regional Airport (CCRA; Carroll County, MD) - Summary of Areas Viewed During JD Field Visit (9/23/2016)

Good afternoon Don,

As per our conversation while on site last Friday (9/23/2016), below is a summary of properties and wetlands/watercourses that were viewed.

For convenience, if possible, please reference "Aquatic Resource Delineation Plans" (seven sheets) provided as part of the bound report. The information is provided in the order that wetlands were visited in the field.

Sheet 3 of 7

1. Wetland #9: previously delineated (delineation confirmed in the field by RETTEW 2016), this wetland was also visited by Mary Frazier, USACE, in August 2016 and is Bog Turtle Habitat (along both sides of Pinch Valley Road)
2. Wetland #12: previously visited by M. Frazier, but adjacent to Pinch Valley Road (we walked past this wetland, this area was not identified as bog turtle habitat, S. Smith, MD DNR, agreed)
3. W160422-1120: an herbaceous area (from which we were directed to move flags by the property owner and prime consultant); the area had cardinal flower in the vegetation community; again, this wetland was visited 9/23/2016 (and previously with M. Frazier, USACE)

Sheet 2 of 7

1. W160506-0920 (very small wetland, spring seep, to the east of Indian Valley Trail)
2. W160505-1250: wetland with open water component, very mucky in places. This wetland and those listed below are all west of Indian Valley Trail

3. W160505-1230
4. W160505-1220
5. W160429-1040
6. W160429-1300

Please note: it is our understanding that the remaining wetlands/watercourses illustrated on Sheet 2 of 7 (for instance, W160505-1420, W160505-1515, and W160506-0835) are acceptable to the USACE, though are very difficult to access in the field.

Sheet 1 of 7

1. W160414-0830: PEM along Bear Branch (this area is north of Pleasant Valley Road)
2. W160420-1630: PEM along Bear Branch (this area is north of Pleasant Valley Road)
3. W160421-1010: PEM, distant (though visible) from our viewing location
4. W160421-1220: had to cross a barbed-wire fence, a continuation of Wetland #13 (listed as 5. Immediately following this entry)
5. Wetland #13: enough was viewed to make determination

If any of this information appears to be in error or if you recall details of our field visit differently, please let me know and I will correct.

We really do appreciate the collective effort of USACE personnel involved in this project.

If you have any questions or require additional information, please contact me (Cell: 717.818.3461; email: tstich@rettew.com <<mailto:tstich@rettew.com>>).

Kind regards

Tom

RETTEW

We answer to you.

An Engineering News-Record Top Design Firm

Thomas Stich

Senior Environmental Scientist

3020 Columbia Avenue

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Mary Ashburn Pearson

From: Frazier, Mary A CIV USARMY CENAB (US) <Mary.A.Frazier@usace.army.mil>
Sent: Wednesday, March 08, 2017 2:00 PM
To: Mary Ashburn Pearson
Subject: RE: Carroll County Regional Airport - JD Request

The best thing to do is finalize it and apply for a permit. I have 50 projects and am doing the best I can to get stuff out. I'm sorry but all the AJDs take a long time.

Mary Frazier
Ecologist
Corps of Engineers, Regulatory Branch
410-962-5679 or cell 410-960-2182

-----Original Message-----

From: Mary Ashburn Pearson [mailto:mapearson@deltairport.com]
Sent: Wednesday, March 08, 2017 11:35 AM
To: Frazier, Mary A CIV USARMY CENAB (US) <Mary.A.Frazier@usace.army.mil>; Mark Metzler <mmezler@rettew.com>
Cc: Thomas Stich <tstich@rettew.com>; Laura Hall <lhall@rettew.com>
Subject: [EXTERNAL] RE: Carroll County Regional Airport - JD Request

Ms. Frazier,

Circling back to this J.D. request. This project is ready to be finalized, and the J.D. is the last piece of the puzzle before finalization. Can you provide an ETA on when we can expect to receive confirmation, for project planning purposes?

Thank you,

Mary Ashburn

Mary Ashburn Pearson, AICP
DELTA AIRPORT CONSULTANTS, INC.
P. 804.955.4556 F. 804.275.8371

-----Original Message-----

From: Frazier, Mary A CIV USARMY CENAB (US) [mailto:Mary.A.Frazier@usace.army.mil]
Sent: Thursday, January 12, 2017 10:21 AM
To: Mary Ashburn Pearson <mapearson@deltairport.com>; Mark Metzler <mmezler@rettew.com>
Cc: Thomas Stich <tstich@rettew.com>; Laura Hall <lhall@rettew.com>
Subject: RE: Carroll County Regional Airport - JD Request

I have not been able to even look at the basis sheets. I have over 50 projects that are permit applications, and as you know they take priority.

I have not forgotten you however.

Mary Frazier

Ecologist
Corps of Engineers, Regulatory Branch
410-962-5679 or cell 410-960-2182

-----Original Message-----

From: Mary Ashburn Pearson [mailto:mapearson@deltairport.com]
Sent: Friday, December 30, 2016 8:42 AM
To: Frazier, Mary A CIV USARMY CENAB (US) <Mary.A.Frazier@usace.army.mil>; Mark Metzler <mmetzler@rettew.com>
Cc: Thomas Stich <tstich@rettew.com>; Laura Hall <lhall@rettew.com>
Subject: [EXTERNAL] RE: Carroll County Regional Airport - JD Request

Good morning Ms. Frazier,

As a follow up to a voicemail I left earlier, we are circling back on this J.D. request at Carroll County Airport.

We appreciate your time on this project!

Thank you,

Mary Ashburn

Mary Ashburn Pearson, AICP
DELTA AIRPORT CONSULTANTS, INC.
P. 804.955.4556 F. 804.275.8371

-----Original Message-----

From: Frazier, Mary A NAB [mailto:Mary.A.Frazier@usace.army.mil]
Sent: Monday, October 31, 2016 8:02 AM
To: Mark Metzler <mmetzler@rettew.com>
Cc: Mary Ashburn Pearson <mapearson@deltairport.com>; Thomas Stich <tstich@rettew.com>; Laura Hall <lhall@rettew.com>
Subject: RE: Carroll County Regional Airport - JD Request

As you may be aware, JDs are not on the priority list. I previously suggested you apply for the permit, which is a higher priority. We are short on staff and have been inundated with verifications of the previously issued GPs that have expired since we are now working under the GP-5. Therefore I cannot reliably give you a time frame.

I have not been able to review the JD basis sheets Tom submitted but hope to get to them in late November.

Sincerely,

Mary Frazier
Ecologist
Corps of Engineers, Regulatory Branch
410-962-5679 or cell 410-960-2182

-----Original Message-----

From: Mark Metzler [mailto:mmetzler@rettew.com]

Sent: Friday, October 28, 2016 3:50 PM

To: Frazier, Mary A NAB <Mary.A.Frazier@usace.army.mil>

Cc: Mary Ashburn Pearson <mapearson@deltairport.com>; Thomas Stich <tstich@rettew.com>; Mark Metzler <mmezler@rettew.com>; Laura Hall <lhall@rettew.com>

Subject: [EXTERNAL] Carroll County Regional Airport - JD Request

Good afternoon Ms. Frazier:

I understand from Thomas Stich of RETTEW, the remaining JD field views went well on Friday, September 23, 2016 and I believe there were follow-up emails in this same regard between yourself, Donald Bole/USACE and Thomas Stich.

As you are aware, Carroll County Regional Airport is in the midst of planning efforts for the expansion of their airport; part of this planning process involves the identification of wetlands, streams or other regulated waterbodies within the project area.

Now that the on-site, field investigation portion of the JD process is complete, I assume the USACE agrees with RETTEW's field delineation (since we were not informed otherwise) and will be moving forward with the remaining JD process.

In the interest of our client being able to confidently move ahead with their planning and design endeavors, would you kindly confirm where the USACE is in this JD process and when you might have a fully completed JD?

Thank you for your time in this matter thus far,

Sincerely,

RETTEW

We answer to you.

An Engineering News-Record Top Design Firm

Mark A. Metzler

Group Manager/Sr. Environmental Scientist

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MEMORANDUM

TO: Mary Ashburn Pearson, Delta Airport Consultants, LLC
FROM: Thomas Stich
DATE: July 5, 2016 (Revised October 31, 2016)
PROJECT NAME: Carroll County Regional Airport **PROJECT NO.** 024552011
SUBJECT: Wetland Investigation

INTRODUCTION

On behalf of Delta Airport Consultants, LLC (Delta), wetland investigations of the proposed Carroll County Regional Airport project area were conducted during the Spring (April and May) of 2008 and Spring (April and May) of 2016, subsequent to revisions to the shape and area of the site, by qualified wetland biologists of RETTEW Associates, Inc. These field investigations included the airport property and expansion parcels necessary to support the extension of the runway and upgrade of the airport.

SITE DESCRIPTION

Presently, the project area is 834.94 acres in size and is located near the limits of Westminster, MD, in Carroll County, Maryland. The project appears on the Littlestown, MD-PA, New Windsor, MD, and Westminster, MD 7.5-minute United States Geological Survey (USGS) Topographic Quadrangle maps (39.612766, -77.013517), **Attachment A**. The area of investigation (AOI) is provided on the Aerial Basemap, **Attachment A**. The proposed plans call for the expansion of the airport and may include construction of a new runway, extension of existing runway/taxi way, and supporting infrastructure. Generally, the site lies within a mixed-use area, being bordered by commercial, institutional, industrial, residential, and agricultural properties. Vegetative communities within the site reflect these varied land uses and include mowed lawns, agricultural fields, mature and successional forest stands, floodplains, and wetlands. The site is located within three watersheds: the northern part of the site drains to Bear Branch, the southeastern part of the site drains to the North Branch West Branch Patapsco River, and the southern/southwestern part drains to Meadow Branch Big Pipe Creek. All wetlands and streams are non-tidal.

METHODS

RETTEW conducted the wetland investigation of the AOI using the wetland delineation methodology outlined in the 1987 *Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region (Version 2.0)*. This approach recognizes the three parameters of vegetation, soils, and hydrology to identify and delineate wetlands. Depressions, changes in topography, areas with concentrations of hydrophytic vegetation, and areas of concentrated water flow received particular attention. Remotely-sensed data, such as USFWS National Wetlands Inventory and USDA Soils Survey mapping, was reviewed; such mapping is included in **Attachment A**. The purpose of the investigation was to identify wetland and stream boundaries within the AOI so as to avoid or minimize impacts to these natural resources. Representative sampling points were selected to characterize the conditions observed within the AOI.

Please note that since 2008, the site area has been re-configured and expanded. Previously investigated (in 2008) portions of the site that are contained within the limits of the re-configured site were re-visited and checked to determine if previously delineated limits were still representative of present site conditions. Largely, many of the wetlands delineated in 2008 remained unchanged in 2016. However, we did observe some minor differences in



the limits of W-9 and W-11 as were delineated in 2008 versus those observed in 2016. These areas were updated to reflect present site conditions and are illustrated on the **Aquatic Resource Delineation Plan** in **Attachment A** as well as listed in the Summary of Wetlands **Table 3** in **Attachment B**. For reference, the original wetland delineation report is included as **Attachment E**.

In some instances, landowners did not grant permission to access their properties. When such occurred, environmental conditions were based on previously collected data, remotely sensed data, and/or field views of the property from beyond parcel boundaries. Properties to which landowners prohibited access are indicated on the **Aquatic Resource Delineation Plan (Attachment A)**.

RESULTS AND DISCUSSION

RETTEW's review of existing documentation and the field investigations resulted in the identification of 27 wetlands and 25 streams in total within the AOI. Five streams and five wetlands that were identified during the original 2008 delineation are located within the current project area and were confirmed in 2016 with minor boundary adjustments; the expanded portion of the AOI contains an additional 22 wetlands and 22 streams; however, two of the streams in the expanded portion are continuations of streams from the original delineations and are not considered separate streams. All streams and wetlands within the current project area are listed in the Wetland/Stream Summary Tables in **Attachment B**. Sampling points in the expanded portion were collected to document representative upland and wetland conditions observed within the AOI, which is discussed below. Sampling Points conducted during the original delineation in 2008 are located in the original wetland delineation report included as **Attachment E**. Generally, the site has been used for industrial, residential, institutional, commercial, silvicultural, and agricultural purposes. These historic and current anthropogenic activities have influenced the physiognomy, resulting in largely graminoid-forb wetlands communities and variously-aged upland timber stands. Many of the wetlands are adjacent to streams and occur in the floodplains of these streams.

Uplands

Much of the upland area was described as wooded hills and slopes, agricultural fields, and maintained lawn areas. In areas having a more mature timber stand, the canopy of the vegetation community was composed of oaks (*Quercus rubra*, *Q. montana*), cherries (*Prunus pensylvanica*, *P. serotina*), hickories (*Carya ovata*, *C. tomentosa*), and tuliptree (*Liriodendron tulipifera*). In the sapling/shrub stratum of these wooded, upland areas, species such as American witch-hazel (*Hamamelis virginiana*), northern spicebush (*Lindera benzoin*), and sapling-sized specimens of cherries and hickories were observed. Much of the remainder of the site experiences more frequent anthropogenic perturbations (e.g. mowing, planting) which is reflected in the species composition of the vegetation community. Please refer to the "Herb" section of **Table 1 (Attachment B)** for species commonly encountered in such areas. Data forms representative of sample points completed in upland habitats can be found in **Attachment C**.

Wetlands

Wetlands habitats were mostly observed adjacent to various streams and in areas that were topographically lower than adjoining uplands. Locations of many of the wetlands coincides with mapped locations of "hydric" soils map units, these being Baile silt loam and Hatboro silt loam. Some of the larger wetlands, such as those associated with Bear Branch and the UNT to West Branch North Branch Patapsco River, did contain some small upland inclusions, however, such inclusions serve to function ecologically within the floodplain context. Dominant herbaceous vegetation recorded at sampling points in wetlands is listed in **Table 2 (Attachment B)**. Sampling points completed in these wetlands exhibited various combinations of the three parameters characteristic of wetlands. A summary of all wetlands within the project area is listed in **Table 3 (Attachment B)**.



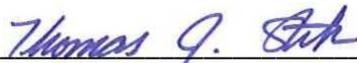
Stream Information

In general, surficial hydrology in the northern portion of the site drains to Bear Branch and/or several unnamed tributaries (UNTs) to Bear Branch. The southeastern portion of the site drains to the West Branch North Branch Patapsco River via a UNT to West Branch North Branch Patapsco River while the southern and southwestern portions drain to an unnamed tributary to Meadow Branch Big Pipe Creek. These receiving streams are all perennial in nature. Information on relative locations of streams and wetlands, flow direction of streams, and stream dimensions is illustrated on the **Aquatic Resource Delineation Plan (Attachment A)**. A summary of all streams within the project area is listed in **Table 4 (Attachment B)**.

CONCLUSION

During the investigation of the Carroll County Regional Airport AOI, RETTEW identified/confirmed a total of 27 wetlands and 25 streams. Please refer to the attached **Aquatic Resource Delineation Plan (Attachment A)** for sampling point and photo locations. Summary Tables of all wetlands and streams within the current project area are provided in **Attachment B**. The sampling points collected within the AOI were recorded on the Wetland Determination Data Forms provided in **Attachment C**. Representative site photographs are provided in **Attachment D**.

Wetlands, ponds, and streams, are regulated by the United States Army Corps of Engineers and the Maryland Department of the Environment. Any encroachments, fills, or crossings of these areas will require the appropriate state and federal permits.

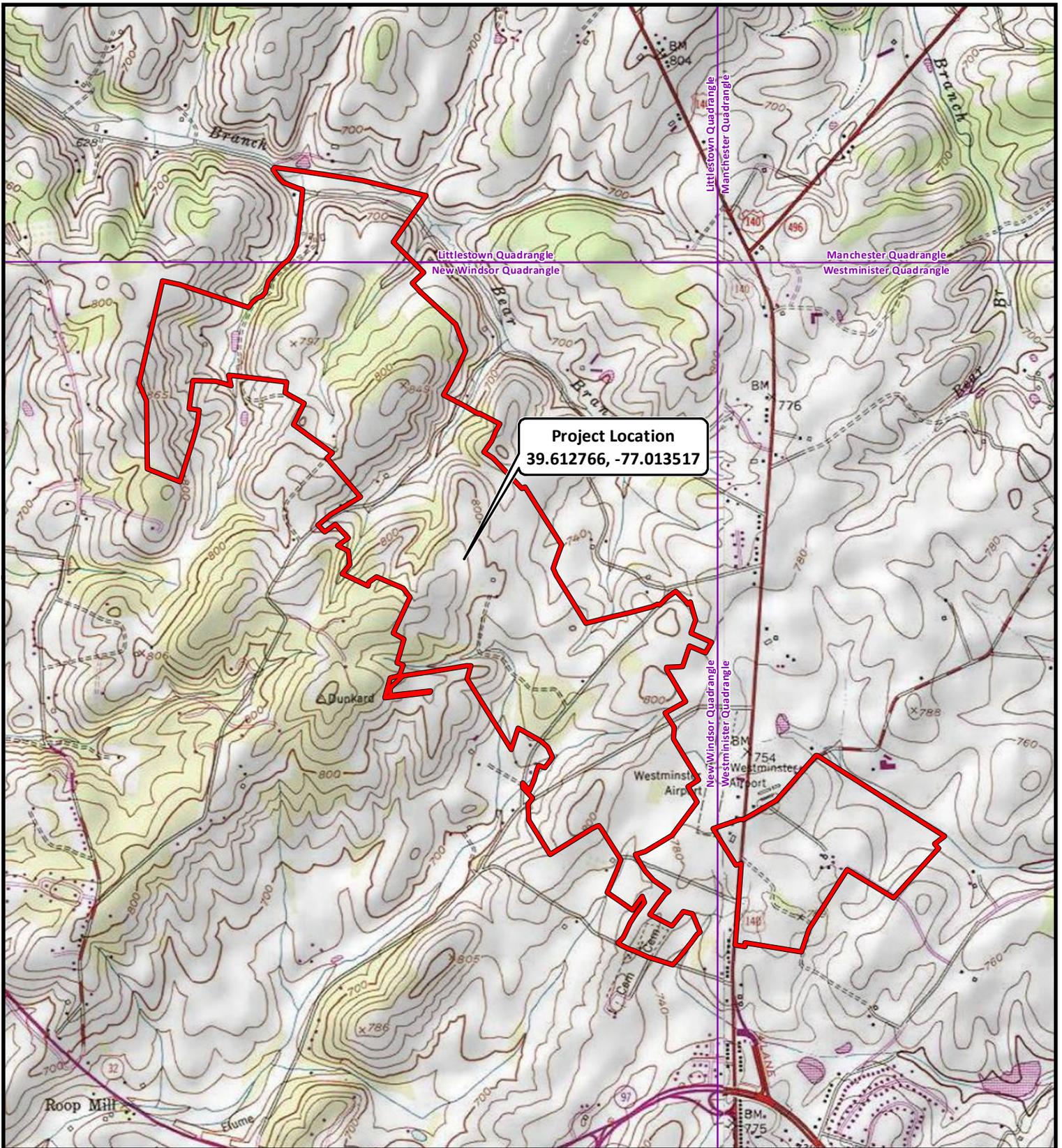
Prepared by: 
Thomas J. Stich, Senior Environmental Scientist

Reviewed by: 
Mark A. Metzler, Group Manager



ATTACHMENT A

FIGURES



Project Location
 39.612766, -77.013517

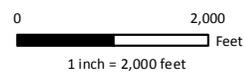
 Area of Investigation (834.94 Acres)

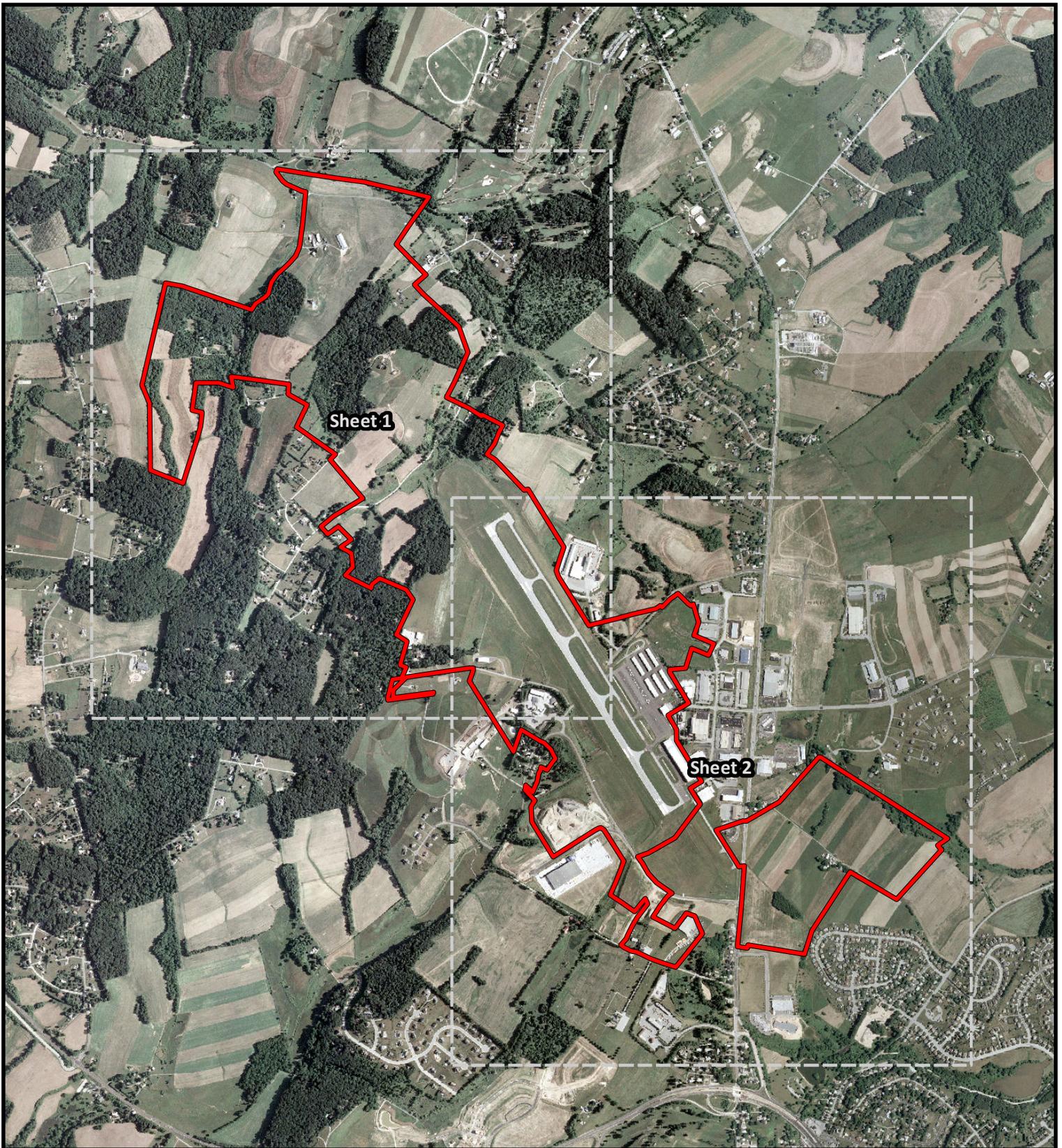
Delta Airport Consultants, Inc.

Carroll County Regional Airport

Location Map

Town of Westminster & Carroll County, Maryland
 Project No. 024552011





 Area of Investigation (834.94 Acres)

 Grid Sheet

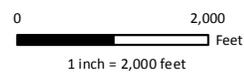
Delta Airport Consultants, Inc.

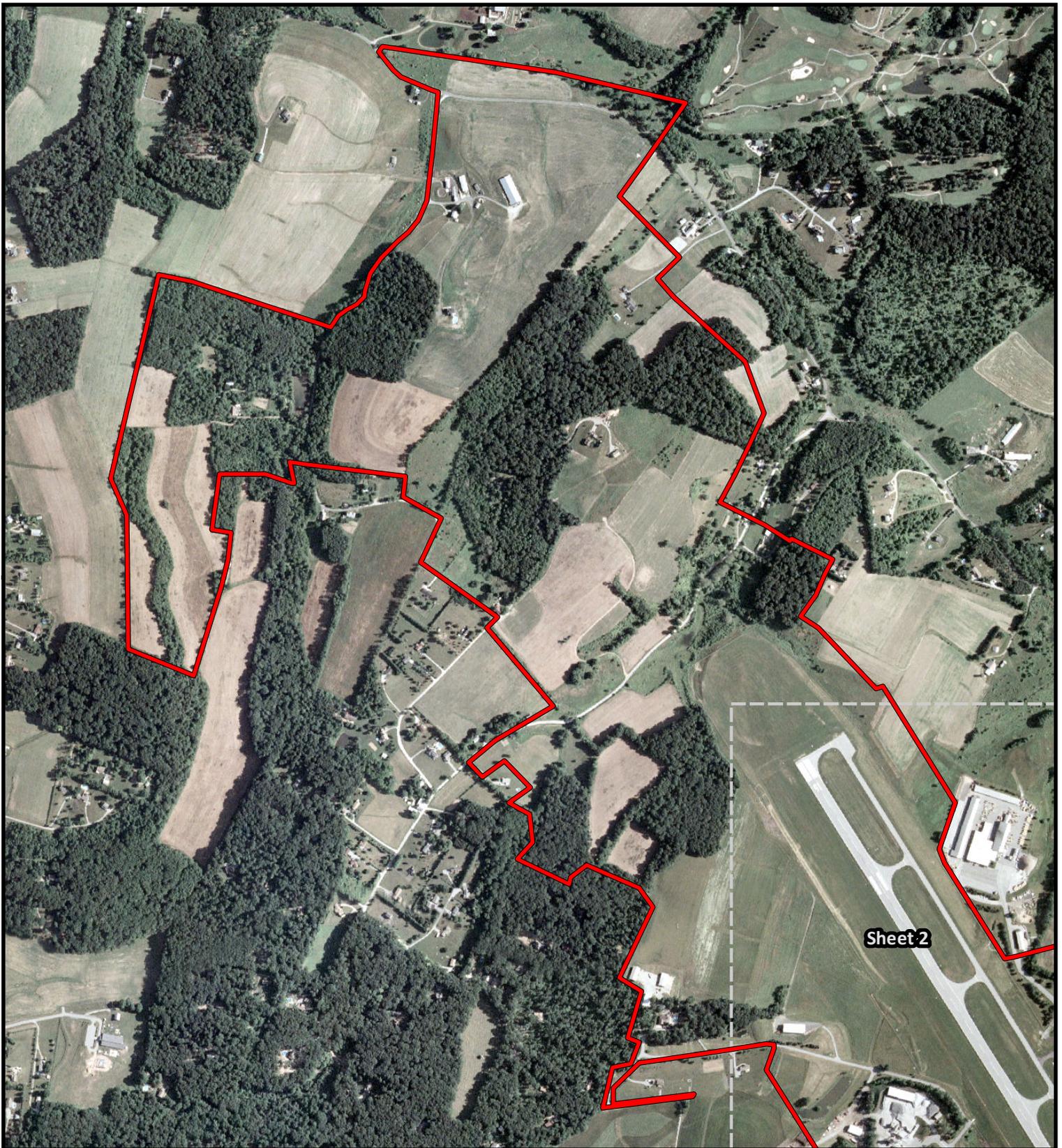
Carroll County Regional Airport

2005 Aerial Map: Index Sheet

Town of Westminster & Carroll County, Maryland

Project No. 024552011





 Area of Investigation (834.94 Acres)

 Grid Sheet

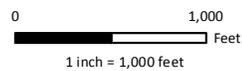
Delta Airport Consultants, Inc.

Carroll County Regional Airport

2005 Aerial Map: Sheet 1 of 2

Town of Westminster & Carroll County, Maryland

Project No. 024552011





Sheet 1

 Area of Investigation (834.94 Acres)

 Grid Sheet

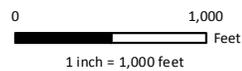
Delta Airport Consultants, Inc.

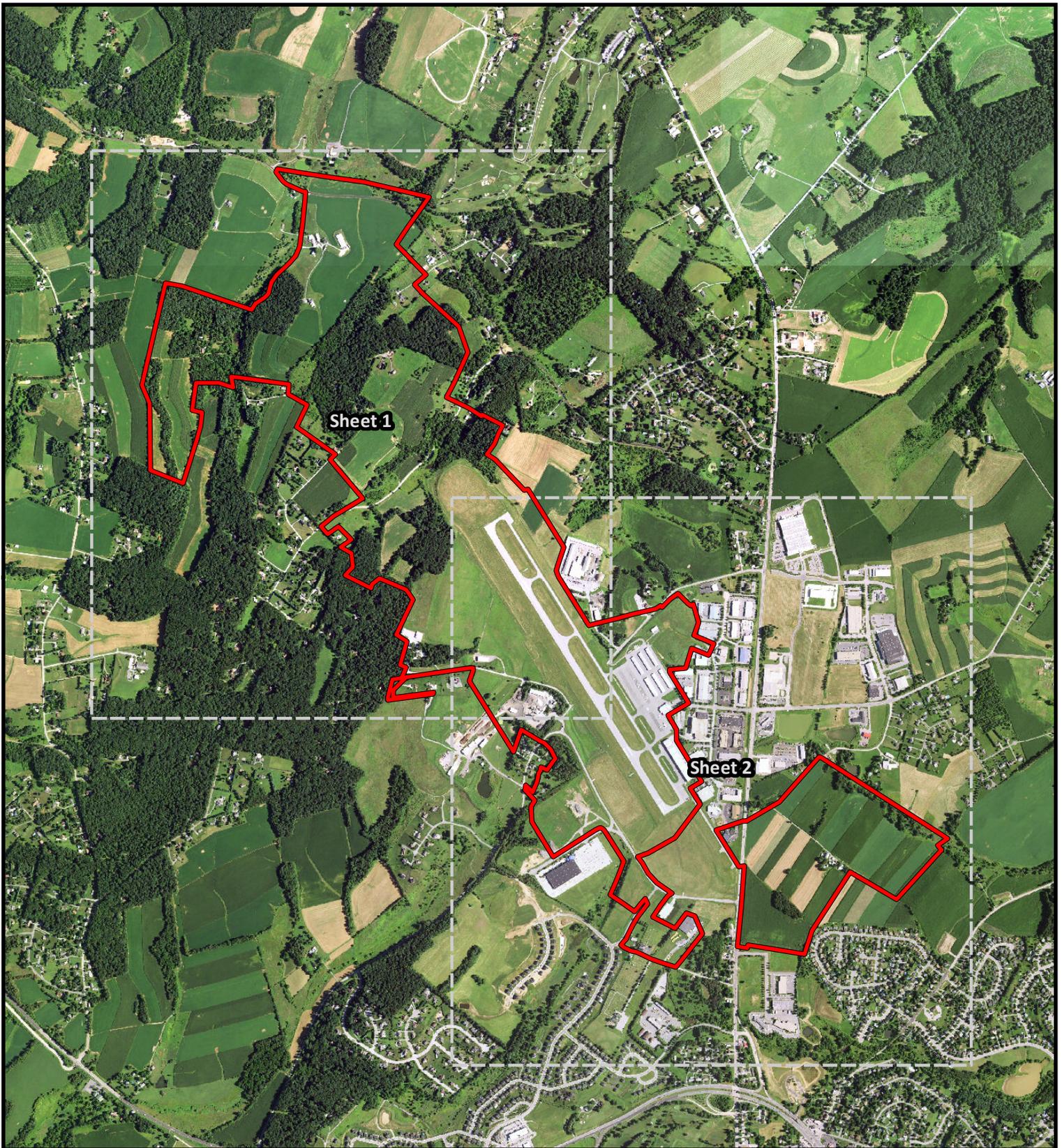
Carroll County Regional Airport

2005 Aerial Map: Sheet 2 of 2

Town of Westminster & Carroll County, Maryland

Project No. 024552011





Area of Investigation (834.94 Acres)



Grid Sheet

Delta Airport Consultants, Inc.

Carroll County Regional Airport

2015 Aerial Map: Index Sheet

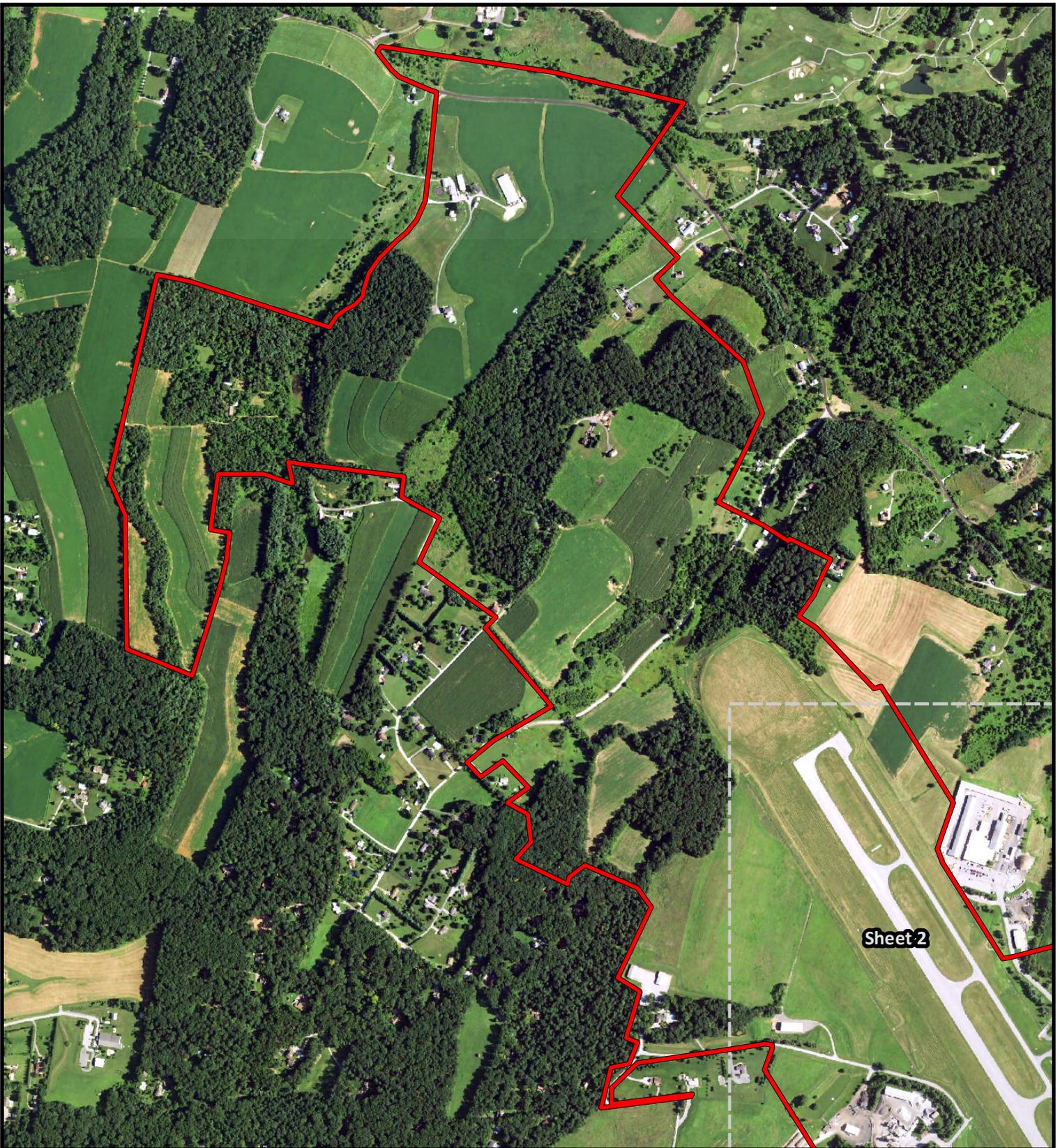
Town of Westminster & Carroll County, Maryland

Project No. 024552011



0 2,000
Feet
1 inch = 2,000 feet





Area of Investigation (834.94 Acres)



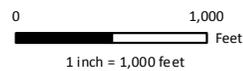
Grid Sheet

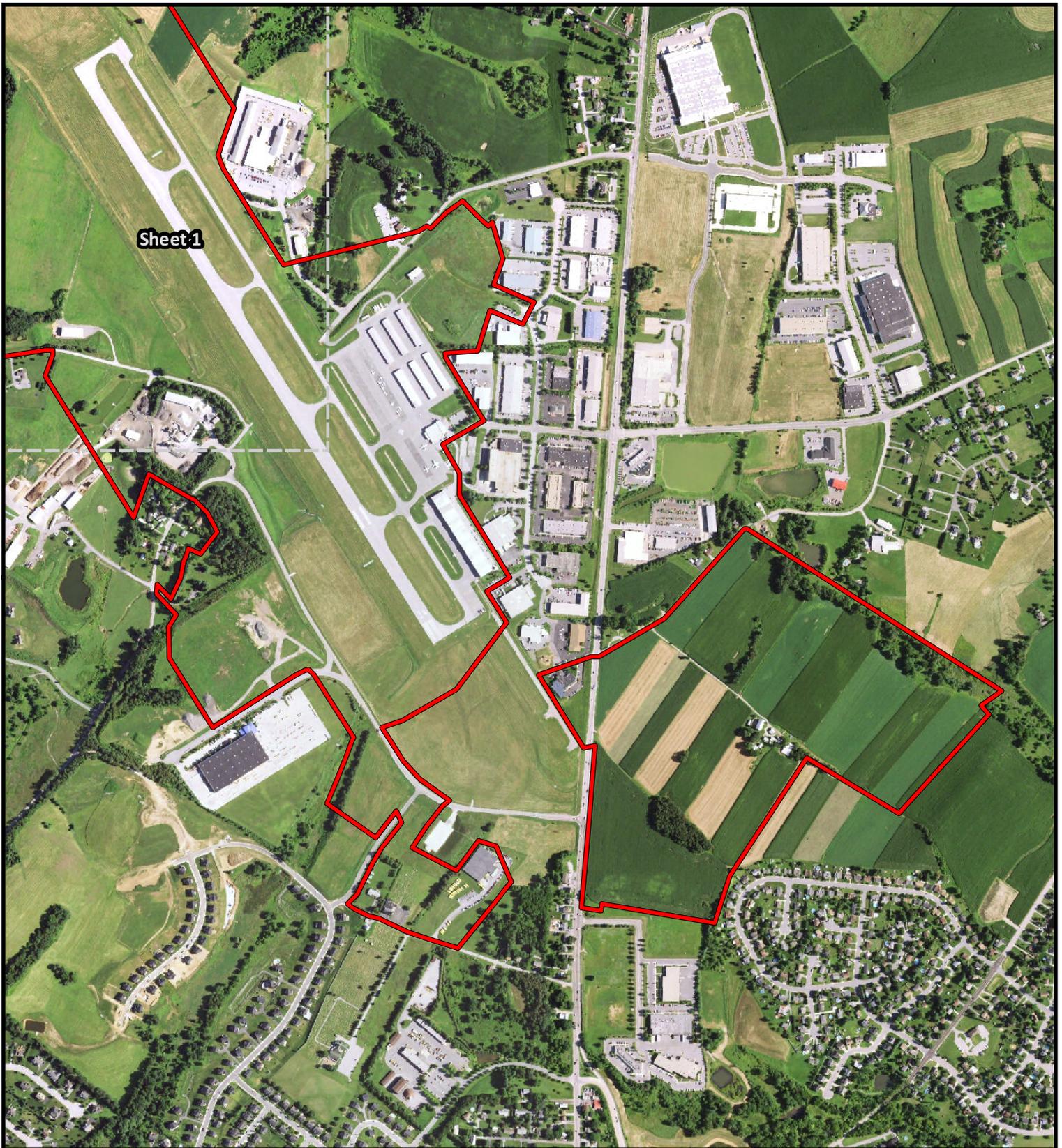
Delta Airport Consultants, Inc.

Carroll County Regional Airport

2015 Aerial Map: Sheet 1 of 2

Town of Westminster & Carroll County, Maryland
Project No. 024552011





Area of Investigation (834.94 Acres)



Grid Sheet

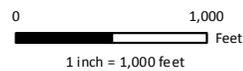
Delta Airport Consultants, Inc.

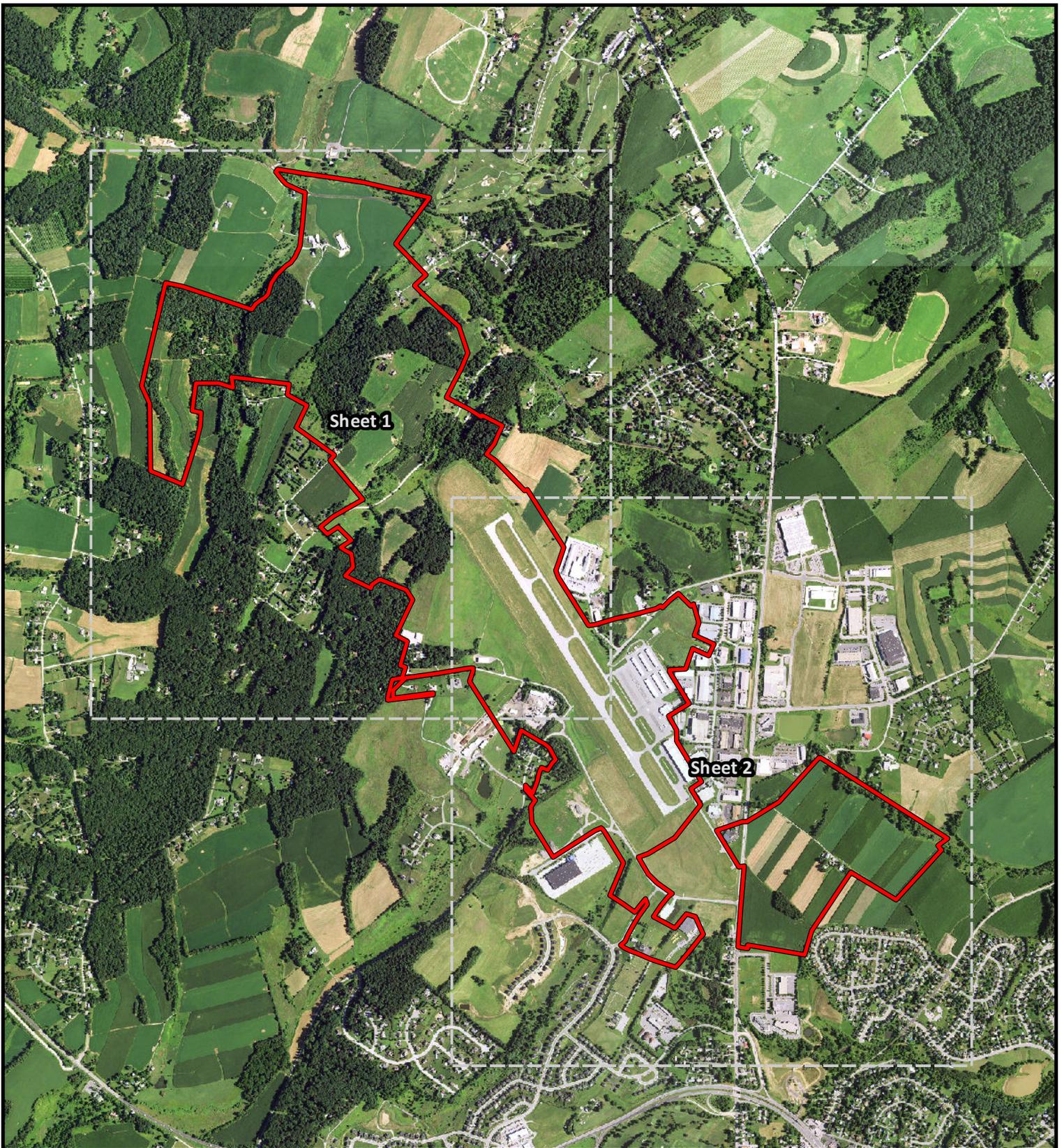
Carroll County Regional Airport

2015 Aerial Map: Sheet 2 of 2

Town of Westminster & Carroll County, Maryland

Project No. 024552011





Area of Investigation (834.94 Acres)



Grid Sheet

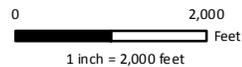
Delta Airport Consultants, Inc.

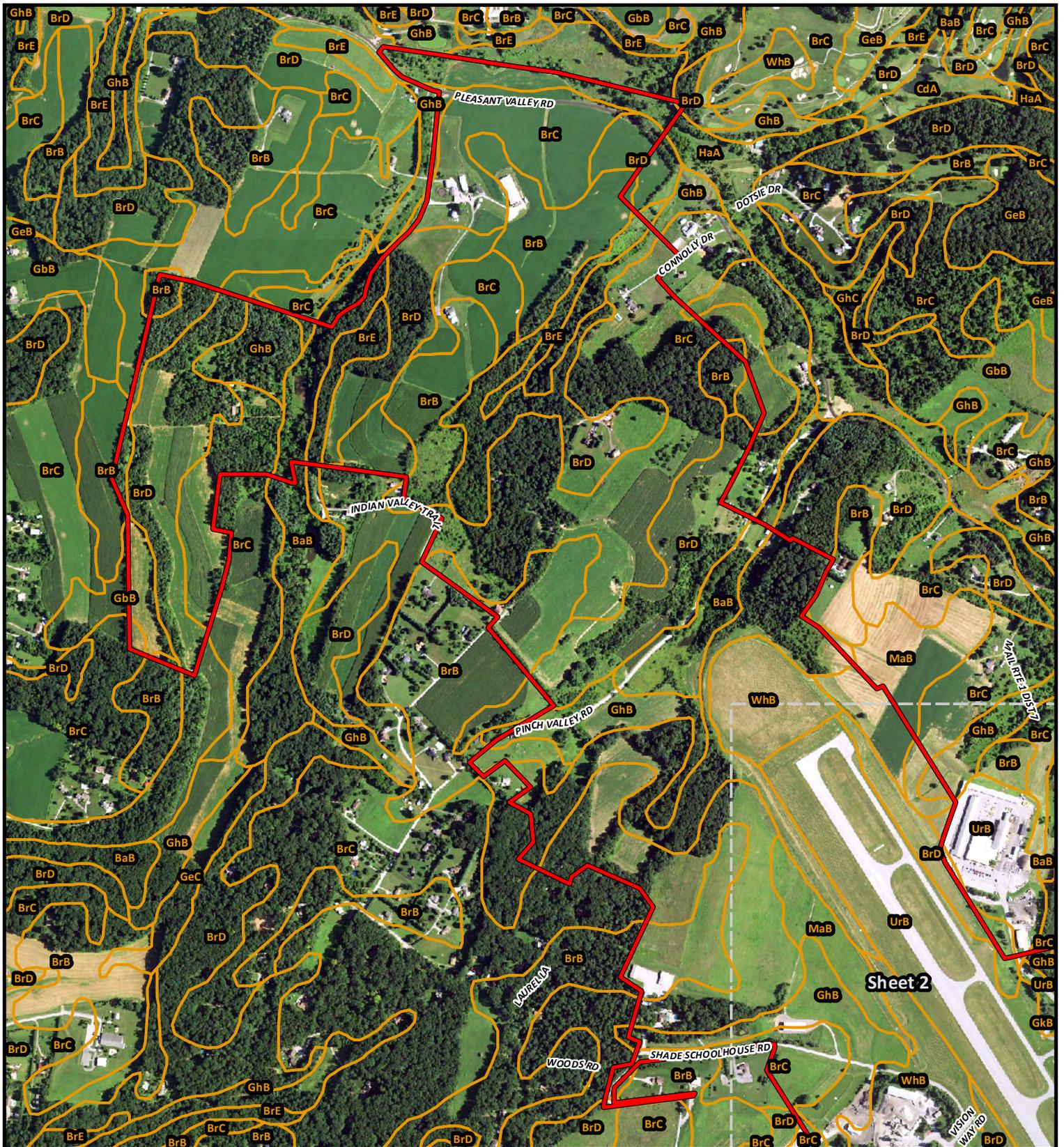
Carroll County Regional Airport

Soil Map: Index Sheet

Town of Westminster & Carroll County, Maryland

Project No. 024552011





-  Area of Investigation (834.94 Acres)
-  Soil Unit Boundary
-  Grid Sheet

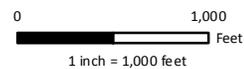
Delta Airport Consultants, Inc.

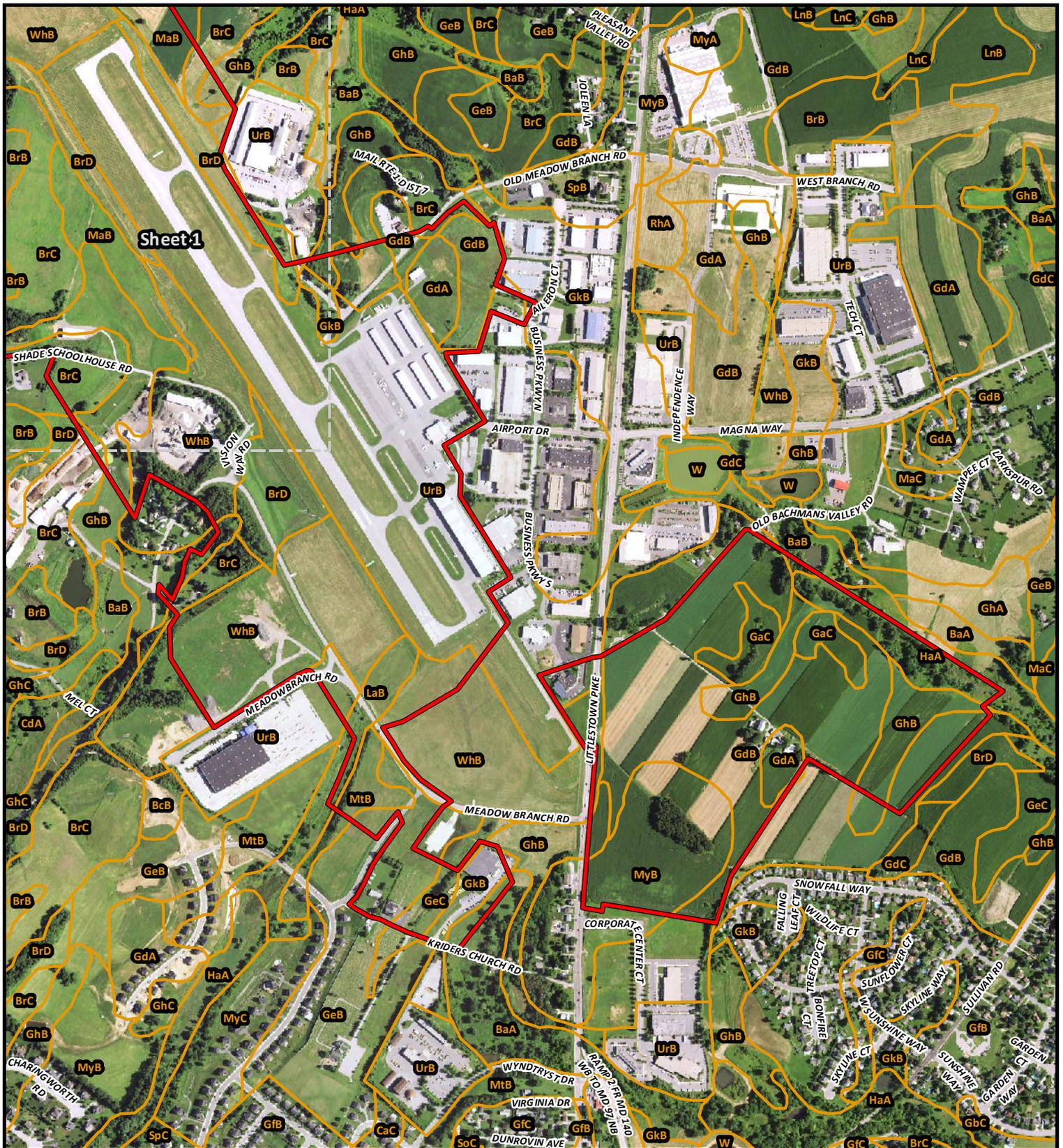
Carroll County Regional Airport

Soil Map: Sheet 1 of 2

Town of Westminster & Carroll County, Maryland

Project No. 024552011





-  Area of Investigation (834.94 Acres)
-  Soil Unit Boundary
-  Grid Sheet

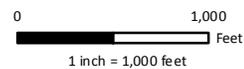
Delta Airport Consultants, Inc.

Carroll County Regional Airport

Soil Map: Sheet 2 of 2

Town of Westminster & Carroll County, Maryland

Project No. 024552011



Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Carroll County, Maryland (MD013)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaA	Baile silt loam, 0 to 3 percent slopes	85	1.6	0.2%
BaB	Baile silt loam, 3 to 8 percent slopes	85	19.4	2.4%
BrB	Brinklow channery loam, 3 to 8 percent slopes	0	65.8	8.1%
BrC	Brinklow channery loam, 8 to 15 percent slopes	0	170.3	20.9%
BrD	Brinklow channery loam, 15 to 25 percent slopes	0	144.1	17.7%
BrE	Brinklow channery loam, 25 to 45 percent slopes	0	9.3	1.1%
GaC	Gaila loam, 8 to 15 percent slopes	0	7.8	1.0%
GbB	Gaila channery loam, 3 to 8 percent slopes	0	4.3	0.5%
GdA	Glenelg loam, 0 to 3 percent slopes	0	8.4	1.0%
GdB	Glenelg loam, 3 to 8 percent slopes	0	68.5	8.4%
GeB	Glenelg channery loam, 3 to 8 percent slopes	0	9.7	1.2%
GeC	Glenelg channery loam, 8 to 15 percent slopes	0	3.0	0.4%
GfB	Glenelg-Urban land complex, 0 to 8 percent slopes	0	0.0	0.0%
GhB	Glenville silt loam, 3 to 8 percent slopes	5	59.1	7.3%
GkB	Glenville-Urban land-Udorthents complex, 0 to 8 percent slopes	0	5.8	0.7%
HaA	Hatboro silt loam, 0 to 3 percent slopes	85	17.4	2.1%
LaB	Lantz silt loam, 3 to 8 percent slopes	85	4.7	0.6%
MaB	Manor loam, 3 to 8 percent slopes	0	14.9	1.8%
MtB	Mt. Zion gravelly silt loam, 3 to 8 percent slopes	5	3.9	0.5%

Hydric Rating by Map Unit— Summary by Map Unit — Carroll County, Maryland (MD013)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MyB	Myersville silt loam, 3 to 8 percent slopes	0	20.9	2.6%
UrB	Urban land-Udorthents complex, 0 to 8 percent slopes	0	101.1	12.4%
WhB	Wheaton-Glenelg complex, 0 to 8 percent slopes	0	74.2	9.1%
Totals for Area of Interest			814.3	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

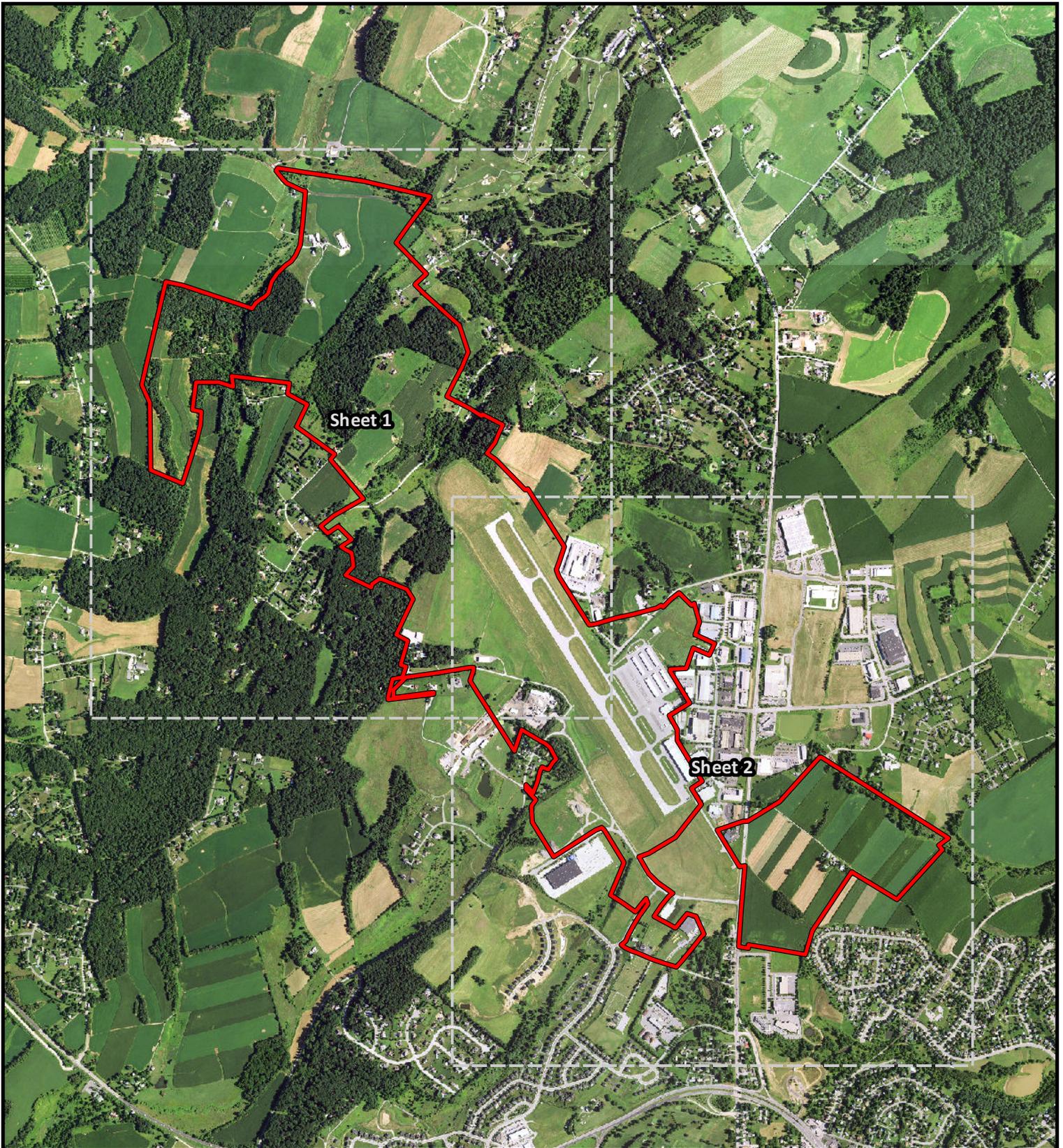
The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.



Area of Investigation (834.94 Acres)



Grid Sheet

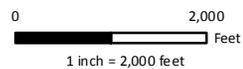
Delta Airport Consultants, Inc.

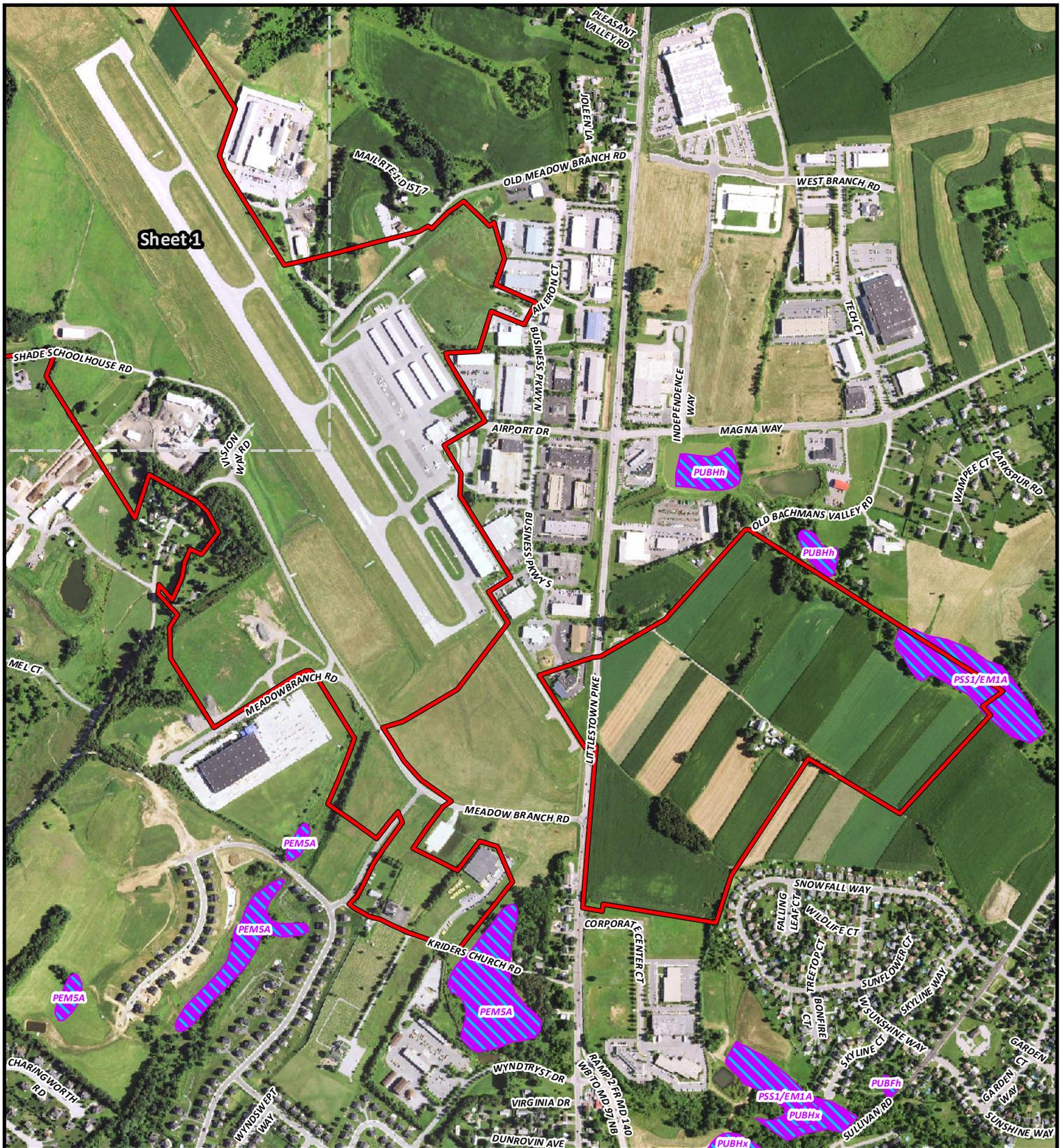
Carroll County Regional Airport

NWI Map: Index Sheet

Town of Westminster & Carroll County, Maryland

Project No. 024552011





Sheet 1

 Area of Investigation (834.94 Acres)

 NWI Wetland

 Grid Sheet

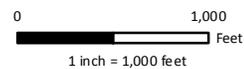
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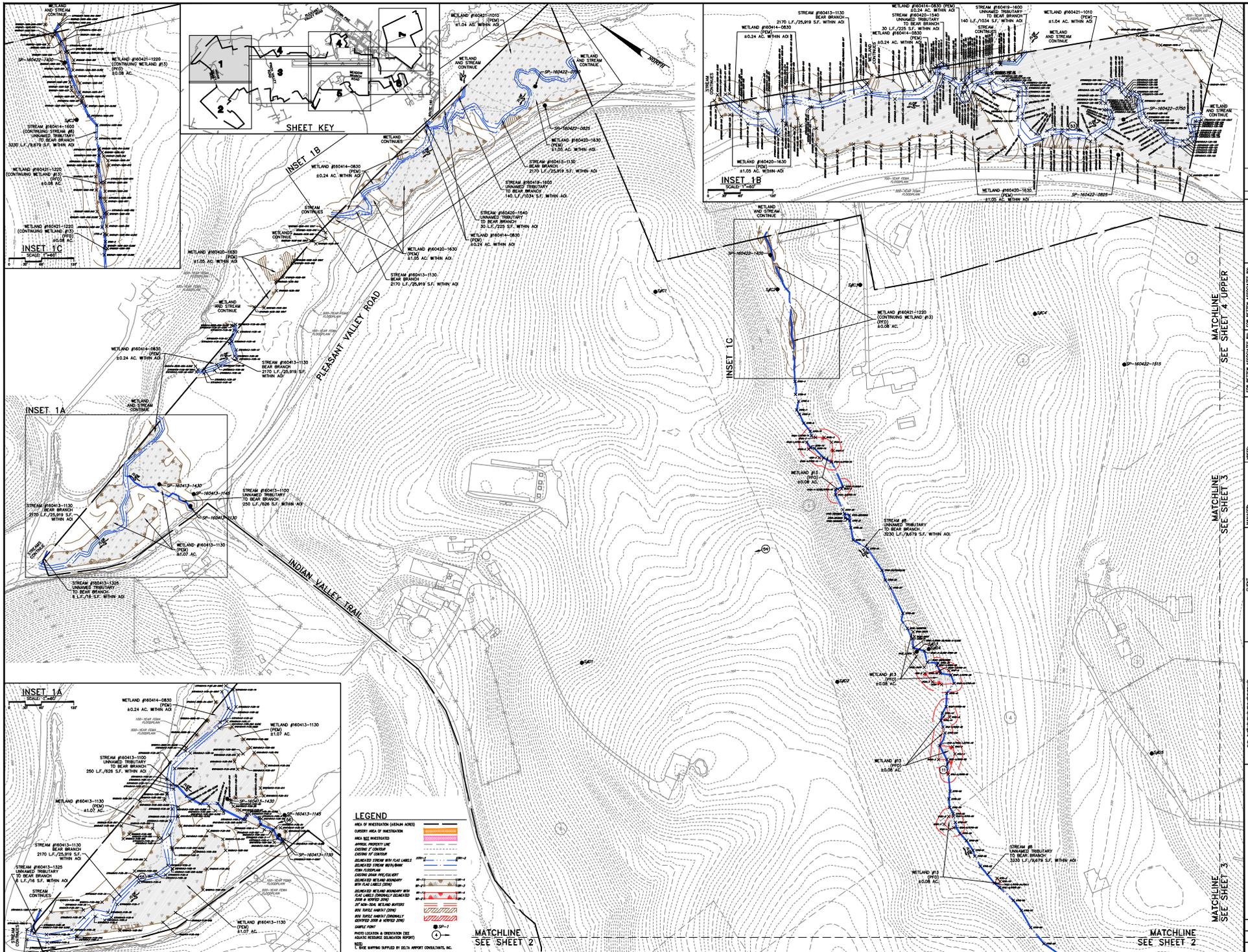
Carroll County Regional Airport

NWI Map: Sheet 2 of 2

Town of Westminister & Carroll County, Maryland

Project No. 024552011





SHEET KEY

INSET 1C
SCALE 1"=400'

INSET 1A
SCALE 1"=400'

INSET 1A
SCALE 1"=400'

LEGEND

- AREA OF INVESTIGATION (STREAM AREAS)
- AREA NOT INVESTIGATED
- UNDESIGNED WETLAND BOUNDARY
- DESIGNED WETLAND BOUNDARY
- DESIGNED WETLAND BOUNDARY WITH 200' BUFFER ZONE
- DESIGNED WETLAND BOUNDARY WITH 100' BUFFER ZONE
- DESIGNED WETLAND BOUNDARY WITH 50' BUFFER ZONE
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ATTACHMENT B

TABLES

Table 1
Dominant plant species recorded in upland habitats within the AOI
(2016 Sample Points Only)

Stratum	Species	Common Name	Indicator Status
Tree	<i>Acer negundo</i>	Ash-leaf maple	FAC
	<i>Liriodendron tulipifera</i>	Tuliptree	FACU
	<i>Morus rubra</i>	Red mulberry	FACU
	<i>Prunus pensylvanica</i>	Fire cherry	FACU
	<i>Quercus rubra</i>	Northern red oak	FACU
	<i>Robinia pseudoacacia</i>	Black locust	FACU
Sapling/Shrub	<i>Carya ovata</i>	Shagbark hickory	FACU
	<i>Hamamelis virginiana</i>	American witch-hazel	FACU
	<i>Lindera benzoin</i>	Northern spicebush	FAC
	<i>Lonicera tatarica</i>	Twinsisters	FACU
	<i>Prunus pensylvanica</i>	Fire cherry	FACU
	<i>Rubus phoenicolasius</i>	Wineberry	FACU
Herb	<i>Capsella bursa-pastoris</i>	Shepherd's-purse	FACU
	<i>Dactylis glomerata</i>	Orchard grass	FACU
	<i>Erythronium americanum</i>	Yellow trout-lily	NL*
	<i>Glechoma hederaceae</i>	Ground-ivy	NL*
	<i>Lonicera japonica</i>	Japanese honeysuckle	FACU
	<i>Phalaris arundinacea</i>	Reed canary grass	FACW
	<i>Plantago major</i>	Great plantain	FACU
	<i>Poa trivialis</i>	Rough-stalk blue grass	FACW
	<i>Podophyllum peltatum</i>	May-apple	FACU
	<i>Taraxacum officinale</i>	Common dandelion	FACU
	<i>Parathelypteris noveboracensis</i>	New York fern	FAC
Woody Vine	<i>Lonicera japonica</i>	Japanese honeysuckle	FACU
	<i>Parthenocissus quinquefolia</i>	Virginia creeper	FACU

*NL: specimens could not be identified to species or are not listed in the *USACE Eastern Mountains and Piedmont 2016 Regional Wetland Plant List*. Please refer to data forms for additional information as to how indicator status was assigned.

Table 2
Dominant plant species recorded in wetland habitats within the AOI
(2016 Sample Points Only)

Stratum	Latin Name	Common Name	Indicator Status
Tree	<i>Acer rubrum</i>	Red maple	FAC
Sapling/Shrub	<i>Lindera benzoin</i>	Northern spicebush	FAC
Herb	<i>Carex stricta</i>	Uptight sedge	OBL
	<i>Impatiens capensis</i>	Spotted touch-me-not	FACW
	<i>Phalaris arundinacea</i>	Reed canary grass	FACW
	<i>Symplocarpus foetidus</i>	Skunk-cabbage	OBL

Table 3
Summary of Wetlands with the AOI

Wetland ID	Wetland Size within AOI (acres)	Wetland Type	Coordinates (Centerpoint)	Year of Original Delineation*
160413-1130	1.07	PEM	39.628513, -77.023638	2016
160420-1630	1.05	PEM	39.628360, -77.018750	2016
160414-0830	0.24	PEM	39.628160, -77.017750	2016
160421-1010	1.04	PEM	39.627791, -77.016830	2016
160421-1220	0.08	PEM	39.625110, -77.016530	2016
160429-1300	0.27	PEM/PSS	39.620464, -77.026302	2016
160429-1030	0.005	PEM	39.620511, -77.026444	2016
160505-1220	0.01	PEM	39.620588, -77.025978	2016
160505-1230	0.09	PEM	39.620988, -77.020166	2016
160505-1250	0.28	PEM/PUB	39.621472, -77.025833	2016
160505-1515	0.03	PEM	39.622116, -77.026347	2016
160505-1420	0.02	PEM	39.622731, -77.027020	2016
160506-0835	0.01	PEM	39.623280, -77.025240	2016
160506-0920	0.002	PEM	39.621433, -77.025469	2016
160422-1120	0.64	PEM	39.614744, -77.019000	2016
160422-0930	0.06	PEM	39.614300, -77.018800	2016
160428-1425	5.63	PEM/PSS/PFO	39.601864, -76.989658	2016
160428-1245	0.04	PEM	39.603533, -76.993340	2016
160428-1250	0.12	PUB	39.603533, -76.993340	2016
160428-1240	0.04	PUB	39.603780, -76.992895	2016
160428-1105	0.06	PUB	39.608563, -77.013966	2016
160428-1600	1.18	PUB	39.607125, -77.011806	2016
9	4.09	PEM/PSS/PFO	39.617261, -77.014989	2008
10	0.30	PEM/PSS/PFO	39.616481, -77.012594	2008
11	0.27	PEM	39.614975, -77.010978	2008
12	0.08	PEM/PFO	39.614994, -77.018372	2008
14	0.06	PEM	39.600514, -77.004972	2008

Total Wetland Acres: 16.767

*Further details regarding wetlands originally delineated in 2008 can be found in the August 2008 Wetland Delineation Report in **Attachment E**. Acreages listed in this table have been updated where applicable based on the 2016 investigation.

Table 4
Summary of Streams with the AOI

Stream ID	Stream Length within AOI (feet)	Stream Type	Coordinates (Start)	Coordinates (End)	Year of Original Delineation*
5/160422-0900	3,109	Perennial RPW	39.612940/-77.019650	39.619097/-77.013475	2008/2016
6	996	Perennial RPW	39.616395/-77.012456	39.618082/-77.014583	2008
7	1,225	Perennial RPW	39.613485/-77.015891	39.616393/-77.015769	2008
8/160414-1600	3,230	Perennial RPW	39.618444/-77.020714	39.625181/-77.016427	2008/2016
10	628	Perennial RPW	39.615152/-77.018889	39.615851/-77.017005	2008
160413-1100	250	Perennial RPW	39.628079/-77.022263	39.628697/-77.022333	2016
160413-1130	2,170	Perennial RPW	39.627362/-77.015897	39.628925/-77.023603	2016
160413-1325	6	Perennial RPW	39.628928/-77.023580	39.628325/-77.023603	2016
160419-1600	140	Perennial RPW	39.628007/-77.016798	39.627986/-77.017258	2016
160420-1540	30	Perennial RPW	39.628095/-77.017305	39.628083/-77.017384	2016
160426-1100	115	Perennial RPW	39.620259/-77.026320	39.620508/-77.026154	2016
160429-1040	109	Perennial RPW	39.620591/-77.026572	39.620492/-77.026224	2016
160429-1050	26	Perennial RPW	39.620399/-77.026386	39.620417/-77.026299	2016
160429-1345	1,172	Perennial RPW	39.619943/-77.026032	39.623183/-77.025137	2016
160429-1355	185	Intermittent	39.622451/-77.027568	39.622303/-77.026970	2016
160429-1410	30	Perennial RPW	39.620267/-77.026036	39.620295/-77.026129	2016
160429-1440	409	Perennial RPW	39.622261/-77.027393	39.622255/-77.026024	2016
160506-0850	531	Intermittent	39.621351/-77.025490	39.622672/-77.025370	2016
160506-0930	17	Intermittent	39.623117/-77.025274	39.623135/-77.025220	2016
160427-1320	397	Intermittent	39.604582/-77.008676	39.603949/-77.009683	2016
160429-0730	54	Perennial RPW	39.605880/-77.011617	39.605738/-77.011674	2016
160429-0740	77	Perennial RPW	39.605584/-77.011269	39.605416/-77.011415	2016
160428-1215	1,029	Intermittent	39.601182/-76.994923	39.603485/-76.992838	2016
160428-1300	2,114	Perennial RPW	39.604134/-76.993574	39.601400/-76.988022	2016
160428-1310	39	Perennial RPW	39.604038/-76.993379	39.603940/-76.993327	2016

Total Stream Length (feet): 18,088

*Further details regarding streams originally delineated in 2008 can be found in the August 2008 Wetland Delineation Report in **Attachment E**.

ATTACHMENT C

WETLAND DETERMINATION DATA FORMS

Data Forms Describing Upland Sampling Points

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL CO. REGIONAL AIRPORT City/County: CARROLL CO. Sampling Date: 4/13/2016
 Applicant/Owner: CARROLL CO. State: MD Sampling Point: SP160913-1145
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): TERACE Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR or MLRA): LRR5 Lat: 39.62811 Long: -77.02215 Datum: _____
 Soil Map Unit Name: GLENNVILLE SILT LOAM, 3-8% SLOPES (GhB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>THE SP IS REPRESENTATIVE OF THE PREDOMINANTLY HERBACEROUS UPLAND AREAS NEAR STR. THERE ARE A FEW TREE + SHRUB SPECIMENS, NOTE, THESE UPLANDS AREAS ARE TOPOGRAPHICALLY HIGHER THAN WETLANDS ADJOINING THE STREAM CHANNEL</u> <p align="center"><u>DSC05465.jpg (N)</u></p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	---

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

Remarks: NO WETLAND HYDROLOGIC INDICATORS OBSERVED

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

Sampling Point: 160A12-11A5

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>2</u> x 4 = <u>8</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>3</u> (A) <u>10</u> (B) Prevalence Index = B/A = <u>3.33</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>83</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Taraxacum officinale</u>	<u>12</u>	<u>N</u>	<u>FACU</u>	
3. <u>Glechoma hederacea</u>	<u>26</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

Phalaris arundinacea is very competitive
Juglans nigra (FACU) specimens (mostly small trees) scattered throughout CRP area

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 1/21/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: SP1604210E25
 Investigator(s): JTH, TJS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): HILLSLOPE (FROM ROAD) Local relief (concave, convex, none): CONVEX Slope (%): 10
 Subregion (LRR or MLRA): LRR S Lat: 39.62735 Long: -77.016194 Datum: NAD 83
 Soil Map Unit Name: Brinklow channery loam, 15-25% slopes (Br D) NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>A ROAD BES "SLOPE", ROAD HAS BEEN IN PLACE FOR LONG PERIOD YIELDING "NORMAL" CONDITIONS</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) _____ <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>NONE OBSERVED</u>	

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

Sampling Point: 160A210825

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer negundo</u>	<u>8</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
$5/8 = 1/2$ <u>8</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Prunus pensylvanica</u>	<u>67</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Carya ovata</u>	<u>18</u>	<u>N</u>	<u>FACU</u>	
3. <u>Rosa multiflora</u>	<u>8</u>	<u>N</u>	<u>FACU</u>	
4. <u>Juniperus virginiana</u>	<u>12</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
$5/12 = 47.5/19$ <u>95</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Podophyllum peltatum</u>	<u>31</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Erythronium rostratum</u>	<u>46</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Claytonia virginica</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4. <u>Allium vineale</u>	<u>6</u>	<u>N</u>	<u>FACU</u>	
5. <u>Carex pensylvanica</u>	<u>11</u>	<u>N</u>	<u>+NL</u>	
6. <u>Carya ovata</u>	<u>6</u>	<u>N</u>	<u>FACU</u>	
7. <u>Prunus pensylvanica</u>	<u>6</u>	<u>N</u>	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
$5/12 = 51/21.6$ <u>108</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>Parthenocissus quinquefolia</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Lonicera japonica</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
$5/12 = 3/1.5$ <u>6</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)
Carya ovata (FACU) TREE SPECIMEN SNAG (DBH) ALSO NEARBY

SOIL

Sampling Point: 160A 210225

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/3	100					SIL	GRAVEL
3-13	7.5YR 6/4	100					SIL	GRAVEL

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks: VERY ROCKY, LIMITED EXCAVATION, DROUGHTY SOILS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 9/22/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: SP16 0A22 0940
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): 6
 Subregion (LRR or MLRA): LRR S Lat: 39.61363 Long: -77.01902 Datum: NAD 83
 Soil Map Unit Name: Brinklow channery loam, 3-8% slopes (Br B) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: - FORESTED UPLANDS - WOOD FLOCC (<i>Lithobates sylvaticus</i>) OBSERVED NEAR THIS SP	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>19</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>19</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>NONE OBSERVED</u>	

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

Sampling Point: 160A22-0940

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Quercus rubra</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. <u>Liriodendron tulipifera</u>	<u>36</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>66</u> = Total Cover 50% of total cover: <u>33</u> 20% of total cover: <u>13.2</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Lindera benzoin</u>	<u>14</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Hemodis virginiana</u>	<u>17</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>31</u> = Total Cover 50% of total cover: <u>15.5</u> 20% of total cover: <u>6.2</u>				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus proenicasinus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
2. <u>Rosa multiflora</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
3. <u>Thelypteris noveboracensis</u>	<u>18</u>	<u>Y</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>22</u> = Total Cover 50% of total cover: <u>11</u> 20% of total cover: <u>4.4</u>				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.) - <u>Quercus montana</u> BEYOND LIMITS OF SF * NL: NOT LISTED IN 2016 EMP, ASSUMED UPL				

SOIL

Sampling Point: 160A22.0940

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/3	100	—	—	—	—	Sil	
5-18	10YR 6/6	80	7.5YR 5/8	12	C	PL	Sil	
18-20	10YR 7/2	90	7.5YR 5/8	10	C	PL	clayey sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks: - BRIGHTLY COLORED SOILS
 - NO HYDRIC SOIL INDICATORS OBSERVED

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL CO. REGIONAL AIRPORT City/County: CARROLL CO. Sampling Date: 1/23/2016
 Applicant/Owner: CARROLL CO. State: MD Sampling Point: 100125-0850
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): NONE Slope (%): <1
 Subregion (LRR or MLRA): LRR S Lat: 39.59819 Long: -76.99625 Datum: NAD 83
 Soil Map Unit Name: MYERSVILLE SILT LOAM, 3-8% Slopes (MqB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> 8078.jpg
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Remarks: SP IN SHOW WORKED SURROUND BY NO-FILL AG FIELDS
NEAR SOUTHERN END OF AOE
ALL TRAP SOILS, OVERCAST, SCATTERED SHOWERS IN LAST 24 HRS

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: NONE OBSERVED

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	7.5YR 8/3	100					SIL	
12-20	7.5YR 8/1	100					SIL	Curve above

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: 024552011 City/County: CARROLL Sampling Date: 9/29/2016
 Applicant/Owner: CCRA State: MD Sampling Point: 1602429-0730
 Investigator(s): JTH, NLS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): SLIGHT SLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 3
 Subregion (LRR or MLRA): LRR S Lat: 39.60598 Long: -77.01144 Datum: NAD 83
 Soil Map Unit Name: GLENNVILLE SILT LOAM, 3-8% SLOPES (GhB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> 8700.jpg
Remarks: <u>IN AN ACTIVE AGRICULTURAL PASTURE; GENERALLY THE LOW SPOT AT THIS AREA OF THE ADJ. SP BETWEEN TWO SWM PONDS; WATER FROM PONDS IS RECYCLED</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	---

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

Remarks: NO PRIMARY OR SECONDARY HYDROLOGY INDICATORS OBSERVED

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

Sampling Point: 160429-0730

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Taraxacum officinale</u>	<u>22</u>	<u>Y</u>	<u>FACU</u>
2. <u>Gramineae</u>	<u>88</u>	<u>Y</u>	<u>*NL</u>
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

*NL : ASSUMED "FAC" FOR VEG. CALCULATIONS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CCNA City/County: CARROLL Co. Sampling Date: 1/29/2016
 Applicant/Owner: CARROLL Co. State: MA Sampling Point: 1100929 - 0755
 Investigator(s): JTH, DS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): NONE Slope (%): 3
 Subregion (LRR or MLRA): LRR S Lat: 39.60543 Long: -77.011384 Datum: NAD 83
 Soil Map Unit Name: GLENVILLE SILT LOAM, 3-8% SLOPES (G1B) NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>IN A PASTURE, ADJACENT TO OUTFLOW CHANNEL (VERY SHALLOW) FROM WOODMONT SWAMP POND</u> <u>WEATHER: DRIZZLE ALL DAY YESTERDAY (1/28) AND THIS MORNING</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) _____ <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>NO PLANT OR SEDIMENT INDICATORS OBSERVED</u>	

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

Sampling Point: 160A29-0755

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5m x 5m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Taraxacum officinale</u>	<u>11</u>	<u>Y</u>	<u>FACU</u>
2. <u>Plantago major</u>	<u>11</u>	<u>Y</u>	<u>FACU</u>
3. <u>Capsella bursa-pastoris</u>	<u>6</u>	<u>Y</u>	<u>FACU</u>
4. <u>Cerastium fontanum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

50/20 = 15/6 = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

* CLOSELY CROPPED GRASS SPECIES; GRAZING MAKES IDENTIFICATION DIFFICULT

- DOES NOT MEET DOMINANCE TEST

SOIL

Sampling Point: 160A29-0755

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/3	100	—	—	—	—	S:L	
4-7	10YR 6/6	75	7.5YR 5/6	25	C	H	S:L	FRUITABLE
7-14	10YR 4/4	80	7.5YR 5/8	20	C	H	S:L	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks: 14" PIT
 - NONE OBSERVED

Data Forms Describing Wetland Sampling Points

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 4/13/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: SP 16 0413-1130
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR or MLRA): LRR S Lat: 39.62812 Long: 077.02224 Datum: NAD 83
 Soil Map Unit Name: Hatboro silt loam, 0-3% slopes (HA A) NWI classification: PEM 1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ W 16 0413 - 1130
Remarks: <u>THIS IS AN AREA THAT RECEIVES HYDROLOGY FROM ADJOINING STR 16 0413-1100 DURING FLOODING AND SEASONAL PRESENCE OF NEAR SURFACE WATER TABLE. THIS SP IS REPRESENTATIVE OF OTHER SIMILAR STREAMSIDE, LOW-LYING AREAS (OFTEN ON INSIDE OF MEANDER BENDS)</u> <u>WEATHER: CLEAR, SUNNY, SOME LIGHT RAIN EARLY YESTERDAY (4/12/16). FROST THIS MORNING, AIR TEMP NOW 50°F</u>	

HYDROLOGY

bsc08464.jpg (?w)

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	---

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

Remarks: EXHIBITS BOTH PRIMARY AND SECONDARY WETLAND HYDROLOGY INDICATORS
*NOTE: WATER IN BOTTOM OF PIT 30mins AFTER INITIAL EXCAVATION OF PIT

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

Sampling Point: 160413-1130

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Phalaris arundinacea</u>	<u>97</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Impatiens capensis</u>	<u>11</u>	<u>N</u>	<u>FACW</u>	
3. <u>Cirsium arvense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>50/20 = 54.5/21.8</u> 20% of total cover: <u>109</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

LANDOWNER SAID THAT THIS AREA IS ENROLLED IN "CRP"

Phalaris arundinacea STRONGLY PREDOMINANT THIS TIME OF YEAR. VERY COMPETITIVE, COULD FORM MONOCULTURE

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/3	100	—	—	—	—	SANDY LOAM	MUCH FINE DEPOSITIONAL MATERIAL
4-9	10YR 4/3	88	5YR 4/A	12	C	M	SANDY LOAM	
9-12	10YR 4/3	70	5YR 4/A	30	C	M	SANDY LOAM	- Mn MASSES
12-20	10YR 3/1	60	10YR 4/3	40	—	—	LOAM	- OXIDIZED RHIZOSPHERES

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: THESE AREAS ADJACENT THE PERENNIAL STREAM CHANNEL RECEIVE SWEETWATER DURING FLOOD EVENTS.

NOTE: ALLUVIAL SOIL

* THIS SP IS NEAR PLEASANT VALLEY ROAD

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 4/13/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: 160A13-1A3⁰⁰
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): TERACE Local relief (concave, convex, none): NONE Slope (%): 0

Subregion (LRR or MLRA): LRRS Lat: 39.62844 Long: -77.02216 Datum: NAD83

Soil Map Unit Name: HARROW silt loam, 0-3% slopes (1ta A) NWI classification: PEM 1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>A TOPOGRAPHIC LOW, PART OF W160A13-1A30</u>	

HYDROLOGY

b5c02a76.jpg (E)

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: WETLAND HYDROLOGY INDICATORS OBSERVED. THIS BROAD "SWICE" IS TOPOGRAPHICALLY LOWER THAN ADJOINING UPLANDS.

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

Sampling Point: 160413-1430

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Salix nigra</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Phalaris arundinacea</u>	<u>98</u>	<u>Y</u>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. <u>Impatiens nupensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5/20 = 50/20</u> 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Remarks: (Include photo numbers here or on a separate sheet.)

- NOTE: MORE Impatiens nupensis (FACW) BEYOND SP
 - MUCH OF Phalaris arundinacea IS BOEMANS
 - Acorus calamus (OBL), Symplocarpus foetidus (OBL) ALSO PRESENT THROUGHOUT GREATER WETLAND AREA.

SOIL

Sampling Point: 160413-1430

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					SIL	
6-12	10YR 4/3	90	7.5YR 4/3	10	C	M	SIL	
12-18	10YR 4/2	66	7.5YR 4/3	33	C	M	SIL	
18-24	10YR 2/1	50	10YR 3/2	50				MINOR MATRIX

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input checked="" type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: PIT 24" DEEP
 NOTE: AT 12" DEEP, SOME DECOMPOSING ORGANIC MATTER PRESENT; SOME BLACK STREAKING
 NOTE: IF THIS SITE WAS PARTIAL WAST, WOULD BE A CANDIDATE FOR PIEDMONT FLOODPLAIN SOILS (F19)
 NOTE: THIS IS AN ALLUVIAL SOIL

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 1/21/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: S2160421-0750
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): FLOODPLAIN Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR or MLRA): LRR S Lat: 39.62769 Long: -77.61614 Datum: NAD 83
 Soil Map Unit Name: Hatboro silt loam, 0-3% slopes (H2A) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ PHOTO DSC08538.jpg (WEST)
Remarks: AIR TEMP 50s, FEW CLOUDS, NO RAIN IN LAST 24 HRS - THIS SP IS IN AN HERBACEOUS FLOODPLAIN ADJACENT TO BEAR BRANCH - GENERAL LAND USE IS AGRICULTURAL, SOME CROP IN FLOODPLAIN ON NORTH SIDE OF BEAR BRANCH - OBSERVED MINK NEAR THIS SP	

HYDROLOGY - NONE: BOUND ON UPLAND SIDE BY ROAD DICA/SLOPE OR PLEASANT VALLEY ROAD

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 - PRIMARY AND SECONDARY INDICATORS OF WETLAND HYDROLOGY OBSERVED
 - RECEIVES HYDROLOGY DURING FLOOD EVENTS
 SUPPLEMENTAL

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

Sampling Point: SP160A210750

Tree Stratum (Plot size: <u>20</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>11</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____				
6. _____				
7. _____				
8. _____				
$50/20 = 5.5/2.2$ <u>11</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Phalaris arundinacea</u>	<u>78</u>	<u>Y</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Symplocarpus foetidus</u>	<u>23</u>	<u>N</u>	<u>OBL</u>	
3. <u>Cirsium arvense</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4. <u>Impatiens capensis</u>	<u>6</u>	<u>N</u>	<u>FACW</u>	
5. <u>Allium vineale</u>	<u>8</u>	<u>N</u>	<u>FACU</u>	
6. _____				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
$50/20 = 58/23.2$ <u>116</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				

Remarks: (Include photo numbers here or on a separate sheet.)

* Carya ovata (FACU) 105 FT BEYOND 30' FROM SP. NOTE THAT THIS SPECIES IS SCATTERED THROUGHOUT THE FLOODPLAIN

SOIL

Sampling Point: SP1604210750

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/3	100					S:L	ALLUVIAL
3-9	10YR 5/2	92	5YR 5/6	8	D	PL	S:L	ALLUVIAL
9-15	10YR 6/2	85	5YR 5/6	15	D	PL	S:L	ALLUVIAL, MU MASSES
15-20	10YR 4/1	75	7.5YR 5/8	25	D	M	S:L	ALLUVIAL

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input checked="" type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Stripped Matrix (S6)	<input checked="" type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No _____

Remarks:
 * F19: PERHAPS NOT IN THE REGION MAPPED FOR THIS INDICATOR BUT APPLICABLE TO THIS SAMPLE

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL CO. REGIONAL AIRPORT City/County: CARROLL Sampling Date: 4/21/2016
 Applicant/Owner: CARROLL CO. State: MD Sampling Point: 160A21-1400
 Investigator(s): JTH, TJS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): FLOODPLAIN Local relief (concave, convex, none): CONCAVE Slope (%): <1
 Subregion (LRR or MLRA): LRR S Lat: 39.62508 Long: -77.01656 Datum: NAD83
 Soil Map Unit Name: GLENVILLE SILT LOAM, 3-8% SLOPES (GhB) NWI classification: RSUBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ DC 05A1.jpg W160A21-1220
Remarks: <u>- THIS SP IS REPRESENTATIVE OF WETLANDS ADJACENT TO THE STR 160A1A-1600. (SEE MAP)</u> <u>- UPLAND BOUNDARY INDICATED BY TOPOGRAPHIC BREAK</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> (Includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: THIS WETLAND RECEIVES HYDROLOGY FROM STREAM AND GROUNDWATER
- SOIL PIT FILLS W/ WATER

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

Sampling Point: 160421-1400

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Carex stricta</u>	<u>17</u>	<u>Y</u>	<u>OBL</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. <u>Inpatiens copensis</u>	<u>22</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Juncus effusus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Remarks: (Include photo numbers here or on a separate sheet.)

- Acer negundo SPECIMENS FOUND OUTSIDE OF SP.
- SOME UNVEGETATED AREAS DUE TO Prolonged INUNDATION

SOIL

Sampling Point: 160421-1400

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/3	100	—	—	—	—	S:L	
7-9	10YR 5/2	88	7.5YR 5/6	12	D	PL	S:L	
9-15	7.5YR 5/8	100	—	—	—	—	—	ALLUVIUM, LARGER THAN SAND

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 4/22/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: 160A22-0910
 Investigator(s): JTH, TJS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): CONCAVE Slope (%): < 1
 Subregion (LRR or MLRA): LRR 5 Lat: 39.61350 Long: -77.01917 Datum: NAD83
 Soil Map Unit Name: Brinklow channery loam, 3-8% slopes (Br B) NWI classification: PEM/PSS *

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ bsc08504.jpg W160A22-0930
Remarks: ADJACENT TO PERENNIAL STR160A22-0900 - IN WOODED COMMUNITY, HOWEVER, THIS SLIGHT TOPOGRAPHIC LOW IS COMPOSED OF HERBACEOUS VEGETATION - MUCH ORGANIC INPUT (I.E., LEAF LITTER) FROM CANOPY * NOTE: MAPS AT NWE AS R5UBH	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) _____ Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) _____ Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) _____ Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) _____ <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) _____	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>< 1</u> * Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> ** (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: * SURFACE WATER PRESENT NEAR THE SAMPLE PIT
 ** SATURATED TO SURFACE AT SAMPLE PIT
 - THIS IS TOPOGRAPHICALLY LOWER THAN ADJOINING UPLANDS

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

Sampling Point: 160A22-0910

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: *NOTE _____)				
1. <u>Lindera benzoin</u>	<u>17</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
Herb Stratum (Plot size: *NOTE _____)				
1. <u>Symplocarpus foetidus</u>	<u>67</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>33.5</u> 20% of total cover: <u>13.4</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

* NOTE : DUE TO NATURE/SHAPE OF WETLAND, SP SHAPE + SIZE HAVE BEEN MODIFIED TO BEST REPRESENT THE WETLAND COMMUNITY

SPHAGNUM SPP WITHIN LIMITS OF WETLANDS

SOIL

Sampling Point: 160422-0910

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 5/2	85	7.5YR 5/6	15	e	PL	sil	
5-20	10YR 6/2	80	5YR 5/E	20	D	M	sil	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: HYDRIC SOIL INDICATOR OBSERVED

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL Co. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 4/27/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: 16028-1440
 Investigator(s): JTH, TJS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): FLOODPLAIN Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR or MLRA): LRR S Lat: 39.60168 Long: -76.98990 Datum: NAD 83
 Soil Map Unit Name: Hatboro silt loam, 0.3% slope (H₂A) NWI classification: PSS1/EH1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ 8093 173
Remarks: <u>THIS IS ALONG A PROPERTY LINE OF A FARM THAT HAS BEEN IN THE SAME FAMILY FOR MORE THAN 200 YEARS</u> <u>- FEW UPLAND INCLUSIONS WITHIN LARGE WETLANDS COMPLEX</u> <u>- LIES IN NORTH BRANCH WEEB BLANCH PATAPSCO RIVER</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>11</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10'</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: * POCKETS OF STANDING WATER NEAR SAMPLE PIT

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

Sampling Point: 160428 - 1A40

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex stricta</u>	<u>32</u>	<u>Y</u>	<u>OBL</u>
2. <u>Symplocarpus foetidus</u>	<u>64</u>	<u>Y</u>	<u>OBL</u>
3. <u>Impatiens capensis</u>	<u>29</u>	<u>N</u>	<u>FACW</u>
4. <u>Lamium purpureum</u>	<u>8</u>	<u>N</u>	<u>*NL</u>
5. <u>Cirsium arvense</u>	<u>2</u>	<u>N</u>	<u>FACU</u>
6. <u>Phalaris arundinacea</u>	<u>17</u>	<u>N</u>	<u>FACW</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: 76 20% of total cover: 30.4

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Remarks: (Include photo numbers here or on a separate sheet.)
*NL: ASSUMED UPL

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: 160428-1440

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100	—	—	—	—	S:L	
6-18"	7.5YR 3/1	80	7.5YR 5/6	20	D	PL	S:L	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: PIT 18" DEEP

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: CARROLL C. REGIONAL AIRPORT City/County: CARROLL Co. Sampling Date: 5/6/2016
 Applicant/Owner: CARROLL Co. State: MD Sampling Point: 160506-0950
 Investigator(s): JTH, TJS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): FOOT OF SLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 2%
 Subregion (LRR or MLRA): LRR S Lat: 39.62042 Long: -77.02629 Datum: NAD 83
 Soil Map Unit Name: Baile silt loam, 3-8% slopes (BaB) NWI classification: PEM 5A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: - RAINING + NOTE: THE SP LOCATION IS NOT MAPPED ON NWD WETLANDS, BUT A PEM 5A IS MAPPED NEARBY AND IS REPRESENTATIVE OF THIS AREA	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: - 2" AND 1" WETLAND HYDROLOGY INDICATORS OBSERVED
 - SPRING SEEPS THROUGHOUT THE AREA

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

Sampling Point: 1100506-0950

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

_____ = Total Cover
50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lindera benzoin</u>	<u>11</u>	<u>Y</u>	<u>FAC</u>
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

_____ = Total Cover
50% of total cover: 5.5 20% of total cover: 2.2

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex stricta</u>	<u>42</u>	<u>Y</u>	<u>OBL</u>
2. <u>Impatiens capensis</u>	<u>26</u>	<u>Y</u>	<u>FACW</u>
3. <u>Symplocarpus foetidus</u>	<u>31</u>	<u>Y</u>	<u>OBL</u>
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is $\leq 3.0^1$

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

_____ = Total Cover
50% of total cover: 49.5 20% of total cover: 19.8

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

- GRAMINEAE SPECIES PRESENT BUT UNIDENTIFIABLE

SOIL

Sampling Point: 160506.0950

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/3	88	7.5YR 5/8	12	C	M	S:L	
5-14	2.5Y 5/1	80	7.5YR 5/6	20	C	PL	S:L	
1A-20	2.5Y 4/2	100					S:L	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

ATTACHMENT D

SITE PHOTOGRAPHS

RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 1

Date Taken:
April 29, 2016

Photo Direction:
Northwest

Comments:
View generally
northwest along the
north limit of the
Tansill Property.
(DSC08704-P07-NW
Tansill Prop)



Photo 2

Date Taken:
April 29, 2016

Photo Direction:
Southwest

Comments:
A view of the
forested portion of
the Tansill Property.
(DSC08707-P07-SW
Tansill Prop)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 3

Date Taken:
April 29, 2016

Photo Direction:
East

Comments:
A no-till agricultural
field on the Tansill
Property. (DSC08711-
PO7-E
Tansill Prop)

NOTE: Many of the
no-till agriculture
fields depicted in this
document were
recently treated with
herbicides and/or
pesticides.



Photo 4

Date Taken:
April 29, 2016

Photo Direction:
South

Comments:
An agricultural field
on the Tansill
Property. (DSC08712-
P07-S
Tansill Prop)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 5

Date Taken:
April 29, 2016

Photo Direction:
West

Comments:
The origin of
STR160429-1040 and
W160429-1030.
(DSC08716-P07-W
Tansill Prop)

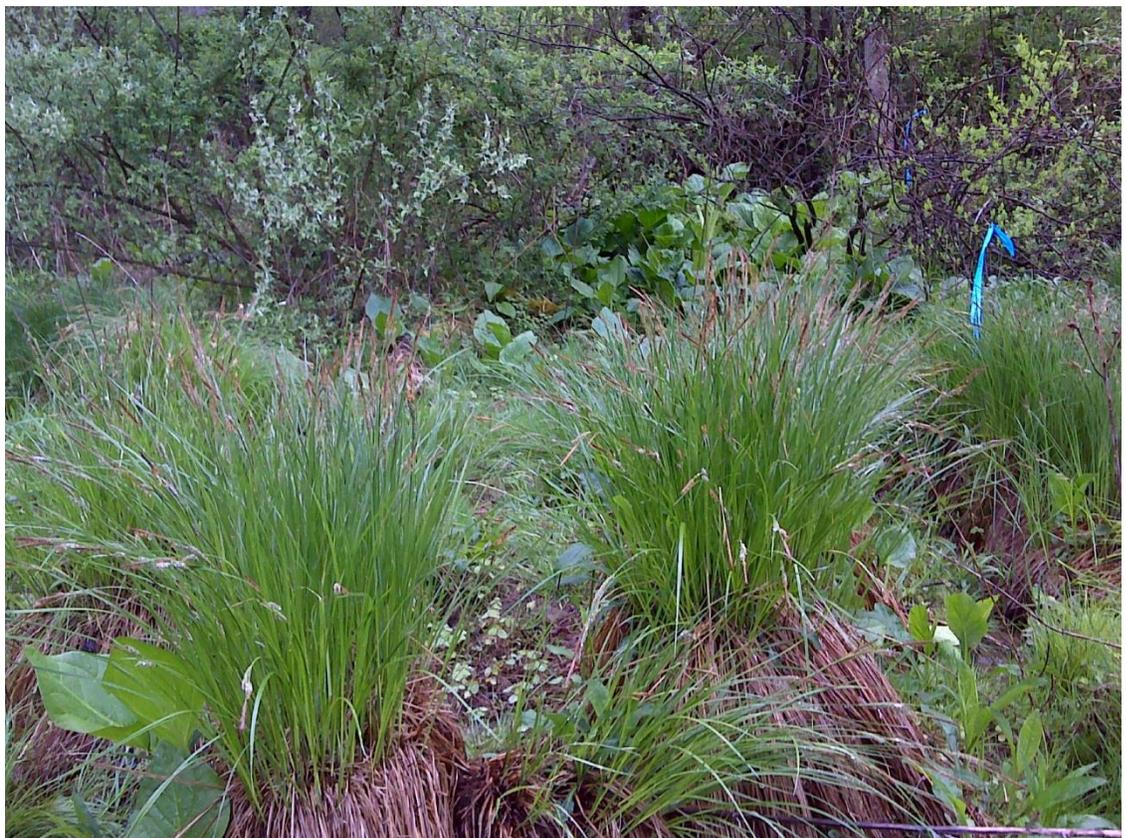


Photo 6

Date Taken:
April 29, 2016

Photo Direction:
Northwest

Comments:
An image of
W160429-1300.
(DSC08718-P07-NW
Tansill Prop)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 7

Date Taken:
May 5, 2016

Photo Direction:
North

Comments:

View of W160505-1250 and S160429-1345. According to a relative of the property owner, this area was formerly a man-made pond. The eroding earthen embankment (that forms the pond) has caused a drop in water levels. The sediment throughout this area creates an unsafe condition. (DSC08738 Tansill Prop)



Photo 8

Date Taken:
May 5, 2016

Photo Direction:
Northeast

Comments:

Image of W160505-1420 and STR 160429. (DSC08743 Tansill Prop)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 9

Date Taken:
May 5, 2016

Photo Direction:
East

Comments:
STR160429-1440, the
main stream on the
Tansill Property and
an unnamed
tributary to Bear
Branch. (08749
Tansill Prop)



Photo 10

Date Taken:
May 5, 2016

Photo Direction:
North

Comments:
W160505-1515 , a
PEM on the Tansill
Property. This
wetland, like others
nearby, is strongly
influenced by
groundwater. (08755
Tansill Prop)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 11

Date Taken:
April 14, 2016

Photo Direction:
East

Comments:
An image of Wetland
12J (W12J), originally
identified and
delineated in 2008.
Such wetlands were
field-checked during
this delineation
effort. (DSC08511-
P08-E
Carroll Co P08)



Photo 12

Date Taken:
April 27, 2016

Photo Direction:
East

Comments:
A typical upland area,
depicting an area
composed primarily
of scrub/shrub
vegetation species in
the foreground and a
mixed upland
hardwood stand in
the background (on a
more steeply sloping
area). (DSC08625-
P08-E
Carroll Co P08)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 13

Date Taken:
April 27, 2016

Photo Direction:
North

Comments:
View into the wooded area, at the top-of-slope, of the valley that drains to Stream #8.
(DSC08627-P08-N
Carroll Co P08)



Photo 14

Date Taken:
April 22, 2016

Photo Direction:
North

Comments:
A portion of wetland
W160422-1120.
(DSC08566-P10)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 15

Date Taken:
April 22, 2016

Photo Direction:
Southeast

Comments:
Upland area within
the area of
investigation (AOI).
Land use throughout
is predominantly
agricultural,
exhibiting a pattern
of planted fields and
woodlands.
(DSC08542-P10-SE
Carroll Co P10)



Photo 16

Date Taken:
April 22, 2016

Photo Direction:
North

Comments:
An image of the area
near Wetland #9
(originally delineated
in 2008) and the
origin of Stream #7.
(DSC08544-P10-N
Carroll Co P10)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 17

Date Taken:
April 22, 2016

Photo Direction:
North

Comments:
An image of
STR160422-0900.
(DSC08552-P10-N
Carroll Co. P10)



Photo 18

Date Taken:
April 22, 2016

Photo Direction:
East

Comments:
W160422-0930 and
adjoining upland
area. (DSC08564-
P10-E
Carroll Co P10)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 19

Date Taken:
April 22, 2016

Photo Direction:
Northeast

Comments:
An image of
W160422-1120.
Pinch Valley Road is
visible in the
background of this
image. (DSC08569-
P10-NE
Carroll Co P10)

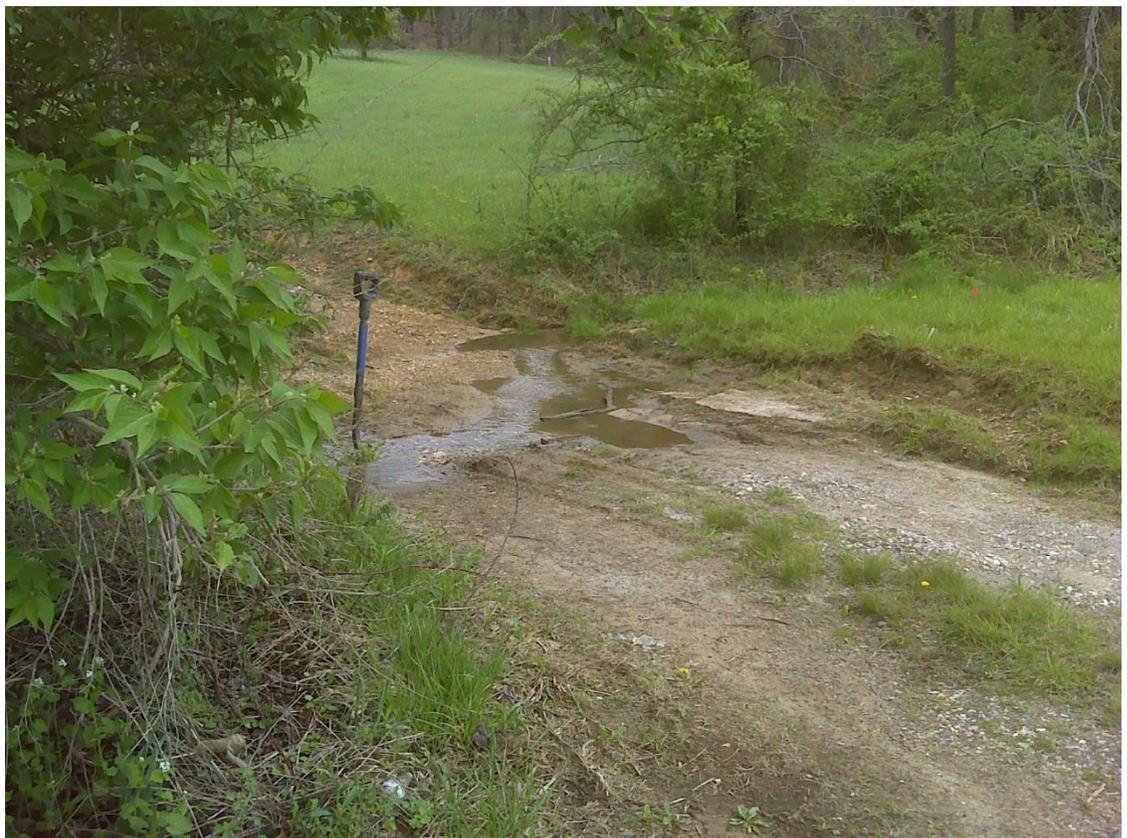


Photo 20

Date Taken:
April 22, 2016

Photo Direction:
South

Comments:
An image of the
existing agricultural
crossing of
STR160422-0930.
(DSC08571-P10-S
Carroll Co P10)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 21

Date Taken:
April 28, 2016

Photo Direction:
East

Comments:
Upland area on a
parcel adjacent to
the Carroll County
Regional Airport.
(DSC08642-P13-E
JRP Vision)



Photo 22

Date Taken:
April 28, 2016

Photo Direction:
West

Comments:
Agricultural fields
adjacent to the
Carroll County
Regional Airport.
(DSC08643-P12-W
JRP Vision)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 23

Date Taken:
April 28, 2016

Photo Direction:
West

Comments:
Agricultural field
adjacent to Carroll
County Regional
Airport. (DSC08644-
P11-W
JRP Vision)



Photo 24

Date Taken:
April 28, 2016

Photo Direction:
South

Comments:
An example of typical
mesic woodlands
throughout the AOI.
(DSC08646-P11-S
JRP Vision)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 25

Date Taken:
April 28, 2016

Photo Direction:
Southeast

Comments:
Agricultural field
adjacent to Carroll
County Regional
Airport. (DSC08649-
P11-SE
JRP Vision)



Photo 26

Date Taken:
April 28, 2016

Photo Direction:
West

Comments:
A man-made,
ornamental pond
identified as
W160428-1105.
(DSC08653-P13-W
JRP Vision)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 27

Date Taken:
April 29, 2016

Photo Direction:
South

Comments:
Image of STR160429-
0730, which flows
through a pasture.
(DSC08698-P14-S
JRP Vision)



Photo 28

Date Taken:
April 29, 2016

Photo Direction:
North

Comments:
Image of uplands
area and adjoining
asphalt recycling
plant. Access to the
plant was prohibited.
(DSC08700-P14-N
JRP Vision)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 29

Date Taken:
April 27, 2016

Photo Direction:
East

Comments:
Image of residential
use lot. In general,
throughout the AOI,
there are various
residential lots and
structures.
(DSC08593-P17-E
Wetzel)



Photo 30

Date Taken:
April 27, 2016

Photo Direction:
Northeast

Comments:
Another image of the
residential lot
depicted in **Photo 29**.
The airport property
is visible in the right
of this image,
upslope of the fence.
(DSC08595-P17-NE
Wetzel)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 31

Date Taken:
April 27, 2016

Photo Direction:
West

Comments:
Another image of the
residential lot.
(DSC08597-P17-W
Wetzel)



Photo 32

Date Taken:
April 27, 2016

Photo Direction:
Northwest

Comments:
A small part of this
residential lot is
wooded. (DSC08598-
P17-NW
Wetzel)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 33

Date Taken:
April 27, 2016

Photo Direction:
Southwest

Comments:
An image of
intermittent stream
STR160427-1320,
that runs through the
front yard of a
residential property.
(DSC08603-P17-SW
Wetzel)



Photo 34

Date Taken:
April 27, 2016

Photo Direction:
Southeast

Comments:
An image of the yard
and residence
referenced in the
description of **Photo**
33. (DSC08604-P17-
SE)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 35

Date Taken:
April 27, 2016

Photo Direction:
Southeast

Comments:
An image of a lawn area that is part of a larger industrial site. Meadow Brook Road is to the left (generally west) of the coniferous trees in the left of this image. (DSC08614-P19-SE DLH)



Photo 36

Date Taken:
April 27, 2016

Photo Direction:
South

Comments:
An image of wetland W#14, originally delineated in 2008. (DSC08617-P19-SE DLH)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 37

Date Taken:
April 27, 2016

Photo Direction:
Northeast

Comments:
An uplands area within the AOI. This area is maintained as part of an existing subdivision.
(DSC08608-P48-NE.JPG
Jacobs Ridge, LLC)



Photo 38

Date Taken:
April 27, 2016

Photo Direction:
Southwest

Comments:
An area within the AOI that is maintained as lawn.
(DSC08613-P51-SW.JPG
Commissioners of
Carroll Co Parcel 51)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 39

Date Taken:
April 28, 2016

Photo Direction:
North

Comments:
A view of the ARC
(Association for
Retarded Citizens of
the United States)
property. (DSC08610-
P24-N.jpg
ARC)



Photo 40

Date Taken:
April 28, 2016

Photo Direction:
North

Comments:
One of the no-till
agricultural fields
common throughout
the area of
investigation. This
particular field is
generally east of
Littlestown Pike.
(DSC08634-P37-N.jpg
R&EI, LLC)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 41

Date Taken:
April 28, 2016

Photo Direction:
Southeast

Comments:
An image taken from
SP-160428-0850. This
small woodlot is
depicted in **Photo 40**.
DSC08638-P37.jpg
R&EI, LLC



Photo 42

Date Taken:
April 28, 2016

Photo Direction:
North

Comments:
A feature identified
as STR 160428-1215.
The farm on which
this feature was
identified has been in
the same family for
more than 200 years.
(DSC08657-P38.jpg
Bish)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 43

Date Taken:
April 28, 2016

Photo Direction:
Northwest

Comments:
View of Stream
160428-1310, an
unnamed tributary to
West Branch North
Branch Patapsco
River. (STR
DSC08662-P38-
NW.jpg
BISH)



Photo 44

Date Taken:
April 28, 2016

Photo Direction:
South

Comments:
View of wetland
160428-1250 (PUB).
Visible in the
foreground of the
image is a small part
of wetland 160428-
1245 (PEM). This is
an old farm pond.
(DSC08663-P38.jpg
BISH)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 45

Date Taken:
April 28, 2016

Photo Direction:
South

Comments:
A no-till agricultural
field. (DSC08666-
P38-S.jpg
BISH)



Photo 46

Date Taken:
April 28, 2016

Photo Direction:
Northeast

Comments:
During the site visits,
many of the no-till
agricultural fields
were recently treated
with herbicides. The
contrast between the
two fields can be
seen in this image.
(DSC08678-P38.jpg
BISH)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 47

Date Taken:
April 28, 2016

Photo Direction:
North

Comments:
An image of wetland
W160428-1425. This
large wetland
complex is adjacent
to an unnamed
tributary to West
Branch North Branch
Patapsco River,
identified as STR
#160428-1300.
(DSC08688-P38-N.jpg
BISH)



Photo 48

Date Taken:
April 28, 2016

Photo Direction:
South

Comments:
Another view of
W160428-1425,
taken from SP-
160428-1425.
(DSC08693-P38.jpg
BISH)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 49

Date Taken:
April 27, 2016

Photo Direction:
Northwest

Comments:
An image of a
maintained lawn area
within the
commercial
properties adjacent
to the airport.
(DSC08620-P55-
NW.jpg
KBTC, INC.)



Photo 50

Date Taken:
April 27, 2016

Photo Direction:
Northeast

Comments:
Another image of a
commercial area
adjacent to the
airport. (DSC08621-
P55-NE.jpg
KBTC, INC.)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 51

Date Taken:
May 6, 2016

Photo Direction:
Southeast

Comments:
An image of the property within the fenced limits of Carroll County Regional Airport. This area is maintained to be free of anything that would be obstructive to air traffic. (DSC08782.jpg CCRA)



Photo 52

Date Taken:
May 6, 2016

Photo Direction:
Northwest

Comments:
Another view from within the fenced limits of CCRA. (DSC08789.jpg)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 53

Date Taken:
April 14, 2016

Photo Direction:
Southeast

Comments:
Bear Branch,
identified as STR
160420-1540. This
stream flows through
an area that is
designated to be
placed in an avigation
easement.
(DSC08487.jpg
Osborne)



Photo 54

Date Taken:
April 14, 2016

Photo Direction:
Northwest

Comments:
An agricultural field
on an existing swine
farm. (DSC08495.jpg
Osborne)



RETTEW Associates, Inc.
Photo Documentation

Client:
Delta Airport
Consultants, Inc.

Site Name:
Carroll County
Regional Airport

Site Location:
Carroll Co., MD

Project Number:
024552011

Photo 55

Date Taken:
April 13, 2016

Photo Direction:
Southeast

Comments:
Bear Branch, a
perennial stream to
which much of the
northern portion of
the site drains.
(DSC08470.jpg
Osborne)



Photo 56

Date Taken:
April 13, 2016

Photo Direction:
Northwest

Comments:
Image of W160413-
1130, a
predominantly
herbaceous wetland
in the floodplain of
Bear Branch.
(DSC08465.jpg
Osborne)



ATTACHMENT E

WETLAND DELINEATION REPORT 2008

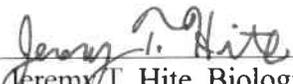
**Wetland Delineation Report
for
Carroll County Regional Airport Site
Town of Westminster
Carroll County, Maryland
August 2008
RETTEW Project No. 07-02455-002**

Prepared for:

Delta Airport Consultants, Inc.
ATTN: Colleen Angstadt
8008 Corporate Center Drive, Suite 330
Charlotte, NC 28226

Prepared by:

RETTEW Associates, Inc.
Natural Sciences Group
3020 Columbia Avenue
Lancaster, PA 17603
(717) 394-3721
(717) 394-1063 fax

Prepared by: 
Jeremy T. Hite, Biologist

Reviewed by: 
Timothy A. Falkenstein, Senior Biologist

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APPENDICIES

- APPENDIX A: Field Data Sheets
- APPENDIX B: Site Photographs
- APPENDIX C: Agency Coordination Letter
- APPENDIX D: Wetlands Location Plan
- APPENDIX E: Professional Qualification

1.0 INTRODUCTION

RETTEW Associates, Inc. (RETTEW) has prepared this wetland delineation report for Delta Airport Consultants, Inc. to document the locations and characteristics of jurisdictional wetland habitats and "waters of the United States" that exist on the Carroll County Regional Airport Site. This field investigation also included all the expansion parcels that will support the extension of the runway and upgrade of the airport. The following information outlines the review of the published resource materials, existing site conditions, and results of the field investigation.

2.0 SITE DESCRIPTION

The Carroll County Regional Airport Site located in the Town of Westminster, Carroll County, Maryland and appears on the New Windsor and Westminster, Maryland U.S. Geological Survey (USGS) 7.5-minute quadrangles (Latitude N 39° 36' 51.57" and Longitude W 77° 0' 41.68") (Figure 1). The proposed plans are still in the feasibility stages; however, expansions of the airport may include runway extensions, new hangars, commercial and industrial buildings, and supporting infrastructure, etc. The area of investigation includes a portion of the airport property and several adjacent parcels totaling approximately 741.97 acres. The entire property is transected and border by several roads and is also bounded by commercial and private properties. The site is dominated by a mixture of vegetative communities, which include mowed lawns, agricultural fields, mature woods, successional woods, and wetlands. There are several small streams that are tributaries to Bear Branch of Big Pipe Creek. There are also numerous palustrine emergent/scrub-shrub/forested wetlands within the Carroll County Regional Airport Site. These are all non-tidal resources.

3.0 METHODS

RETTEW used the on-site routine criteria outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) in conjunction with the 1992 Regulatory Guidance Letter. The "Areas Greater than 5-acres in Size" methodology outlined in the 1987 Manual was utilized to document the wetland/watercourse boundaries on the site. This methodology requires that baselines with right angle transects be laid out perpendicular to the parcels' wetlands and or watercourses (drainage). Transects were then surveyed with sample points being located along transects at points where the vegetative community changed. This approach recognizes the three parameters of vegetation, soils, and hydrology to identify and delineate wetlands. Data on soils, vegetation, and hydrology were collected on April 29, May 7, 8, and 13, 2008 during on-site investigations conducted by qualified wetland biologists. This methodology requires that this data be collected during the growing season. Dominant species were determined by visually estimating the percent cover of each species within a plot of approximately 30 ft. radius for trees, and a 5 ft. radius for shrubs and herbs and vines. Species nomenclature and wetland indicator status follows that of Reed (1988). Rhoads and Block (2000), Newcomb (1977), and Harlow (1957) were the major taxonomic references used to identify vegetation species. Hydrophytic species are those wetland plants with indicator statuses of OBL (obligate wetland), FACW (facultative wetland), or

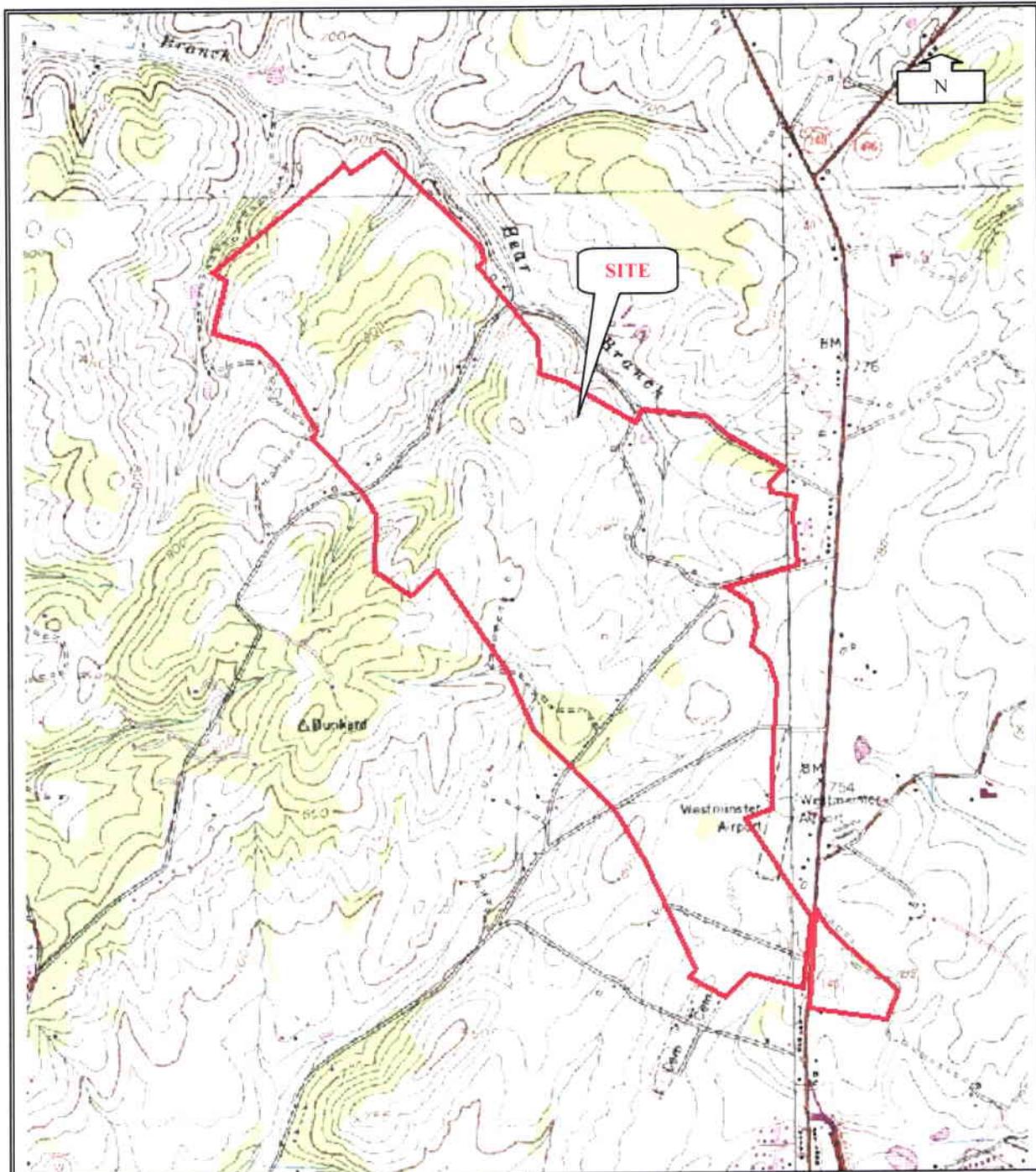


FIGURE 1
 Site Location Map
 Carroll County Regional Airport Site
 Town of Westminister,
 Carroll County, MD

New Windsor and Westminister, MD USGS
 7.5-minute quadrangles
 RETTEW Project No. 07-02455-002
 Scale 1:24,000

FAC (facultative). Species listed as FACU (facultative upland) are more indicative of upland areas and generally do not occur in wetlands. Some species are not considered to be reliable indicators of wetland or upland conditions; these are designated as NI (no indicator). A plus or minus sign indicates the species tend to be at the drier (-), or wetter (+) end of its status category. Soils were examined by using a sharp-shooter shovel to a depth of 18 inches or refusal. Soil colors were determined using a Munsell Soil Color Chart. Hydric soils generally have chromas (the denominator of the fraction at the end of the soil color description) of 1 or 0 in unmottled soils, or of 2 or less in mottled soils. Mottling or redoximorphic concentrations are the apparent accumulation of Fe and Mn oxides within the soil profile. This feature is usually an indication of periodically, seasonally or permanently saturated soil conditions (Vepraskas 1994). Indicators of wetland hydrology (saturated or inundated soils) along with signs of previous prolonged inundation during the growing season were also noted at each sampling location. All wetland habitats were classified according to the U.S. Fish and Wildlife Service, *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin *et al.* 1979). Field data sheets are located in Appendix A. Photographs of the wetlands and adjacent upland areas are provided in Appendix B.

4.0 REVIEW OF EXISTING DOCUMENTATION

4.1 Topography and Drainage

The Carroll County Regional Airport Site is comprised of level to gently rolling topography. Review of the New Windsor and Westminster, Maryland USGS 7.5-minute quadrangle maps revealed that the existing topography within the site ranges between approximately 655 to 856 feet. Surficial drainage is conveyed downslope in a northeasterly and southwesterly direction.

4.2 Soil Survey

The Soil Survey of Carroll County, Maryland (<http://soildatamart.nrcs.usda.gov>) indicates Baile silt loam, 0-3 % slopes (BaA), Chester silt loam, 0-15% slopes (CeA and CeC2), Glenelg loam, 3-15% slopes (GIB2 and GlC3), Glenville silt loam, 0-3% slopes (GvA), Hatboro silt loam, 0-3% slopes (Ht), Linganor channery silt loam, 3-8% slopes (LnB2), Manor gravelly loam, 3-8% slopes (MgB2), and Mt. Airy channery loam, 3-45% slopes (MtB2, MtC2, MtC3, MtD2 and MtE), as the soil phases mapped on the Carroll County Regional Airport Site (Figure 2). The Baile series consists of very deep, poorly drained soils found in upland depressions and on footslopes. The Chester series consists of very deep, well drained soils found on uplands. The Glenelg series consists of very, deep well drained soils found on uplands. The Glenville series consists of very deep, moderately well to somewhat poorly-drained soils found on uplands. The Linganore series consists of moderately deep, well drained soils found on uplands. The Manor series consists of very deep, well-drained to somewhat excessively-drained soils found on uplands. The Mt. Airy series consist of moderately deep, somewhat excessively drain soils found on uplands. The Soil Survey of Carroll County, Maryland lists Baile, Glenville and Hatboro series as hydric soils.

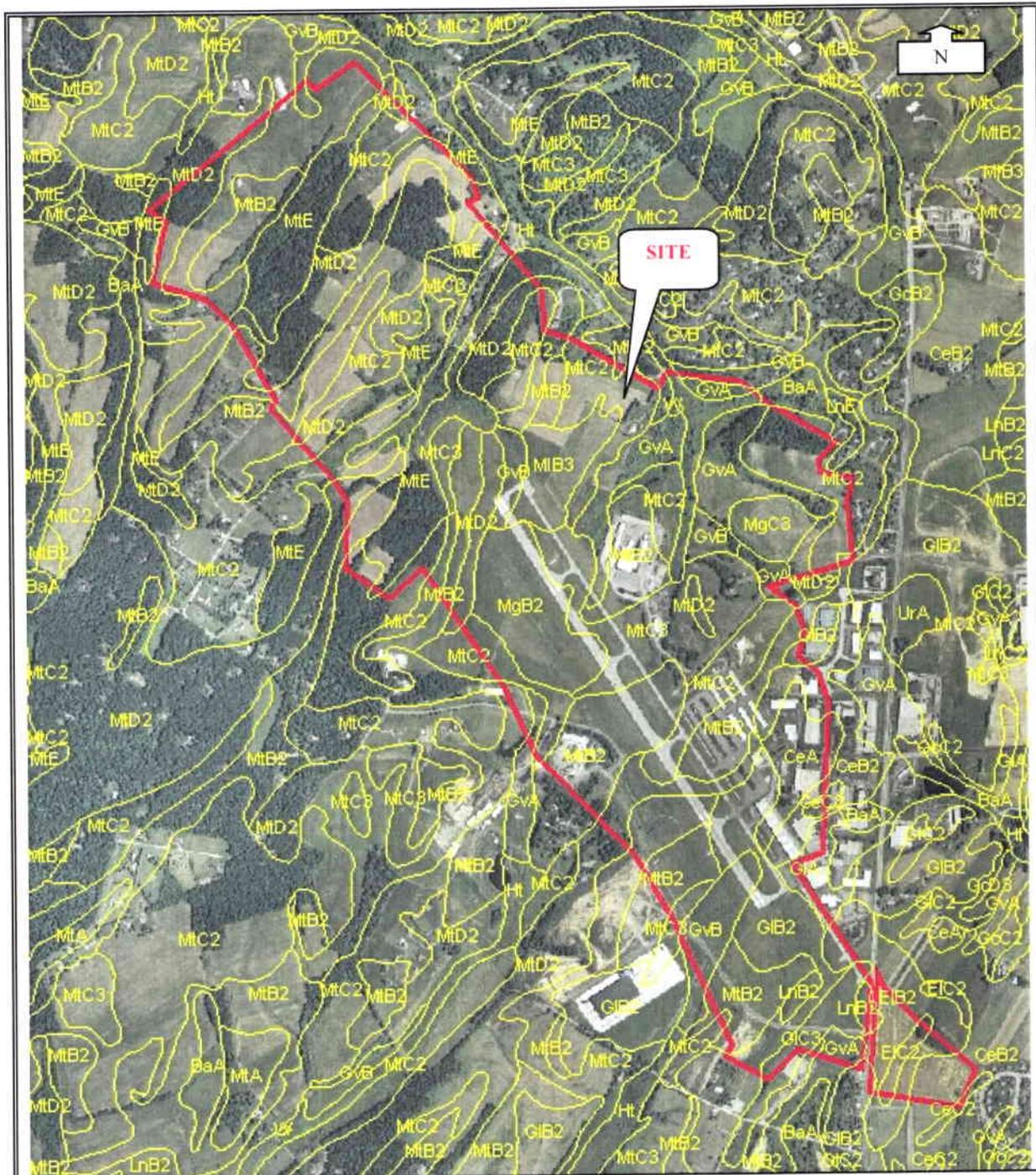


FIGURE 2
Soils Map
Carroll County Regional Airport Site
Town of Westminster,
Carroll County, MD

Soil Survey of Carroll County, MD
*(See Soil Survey section for list and
description of soils)*

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1:19,000

4.3 National Wetlands Inventory Map

A review of the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) map for the New Windsor and Westminster, Maryland USGS 7.5-minute quadrangles indicates that one palustrine emergent (PEM) wetland and one palustrine forested (PFO) wetland were previously identified on the Carroll County Regional Airport Site (Figure 3). Note that NWI maps were derived from aerial photo interpretation and are designed for general planning purposes only and typically do not show all the wetland or watercourse resources within any given area.

5.0 AGENCY COORDINATION

A letter was sent to the Maryland Department of Natural Resources, Wildlife and Heritage Service on June 6, 2008 and U.S. Fish and Wildlife Service on July 31, 2008 to determine the presence or absence of threatened or endangered species or critical habitat under their jurisdiction within the site. A response letter from the Maryland Department of Natural Resources, Wildlife and Heritage Service on July 28, 2008 stated that there is no state or federal records for rare, threatened or endangered species within the boundaries of the Carroll County Regional Airport Site. This letter is included in Appendix C. An agency response letter from U.S. Fish and Wildlife Service has not been received to date, but will be forwarded upon arrival.

6.0 RESULTS AND DISCUSSION

The following descriptions provide a summary of the sample points, including their location and characteristics. The site plan depicting the surveyed sample points, photographs, soil pit locations and wetland boundaries is provided in Appendix D.

6.1 Wetlands

RETTEW identified a total of 14 palustrine emergent/scrub-shrub/forested wetlands during the site investigations. The vegetation, soil characteristics, and hydrologic parameters present at Sample Points #A1, A4, D3, D7, E4, and E5 were indicative of jurisdictional wetlands.

Sample Points #A1, A4, D3, D7, E4, and E5 were located within wetlands throughout the Carroll County Regional Airport Site. The dominant vegetative species in the wetlands include *Fraxinus pennsylvanica* (green ash, FACW), *Viburnum recognitum* (southern arrowwood, FACW-), *Acer rubrum* (red maple, FAC), *Juncus effusus* (common rush, FACW+), *Vernonia noveboracensis* (New York ironweed, FACW+), *Solidago* sp. (goldenrod), *Epilobium coloratum* (purpleleaf willowherb, OBL), *Salix nigra* (black willow, FACW+), *Rosa multiflora* (multiflora

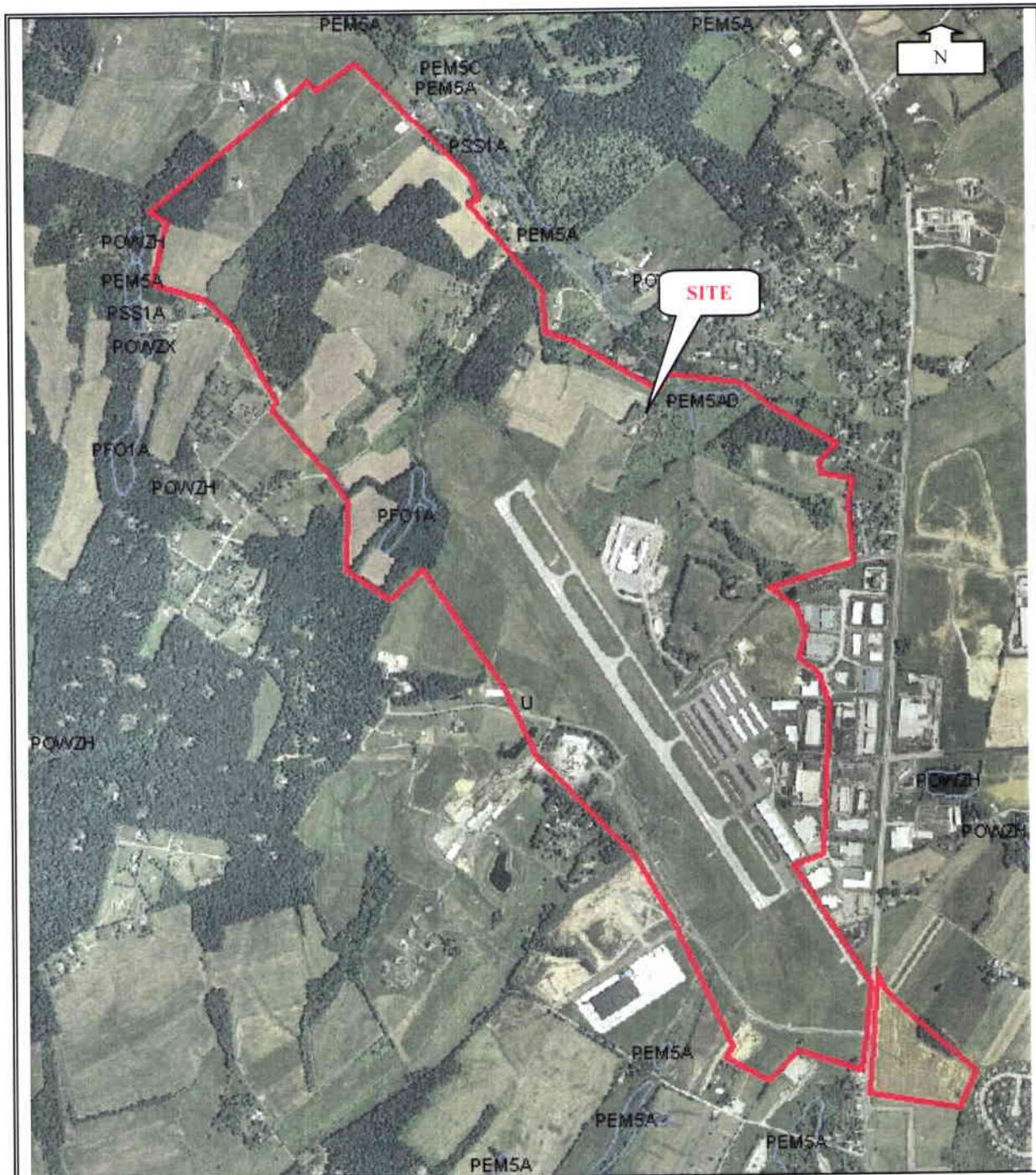


FIGURE 3
National Wetlands Inventory Map
 Carroll County Regional Airport Site
 Town of Westminster,
 Carroll County, MD

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 Scale 1:18,000

rose, FACU), *Impatiens capensis* (jewelweed, FACW), *Cirsium arvense* (Canada thistle, FACU), *Toxicodendron radicans* (eastern poison ivy, FAC), *Onoclea sensibilis* (sensitive fern, FACW), *Lindera benzoin* (northern spicebush, FACW-), *Symplocarpus foetidus* (skunk cabbage, OBL), *Carex stricta* (upright sedge, OBL), *Typha latifolia* (broadleaf cattail, OBL), *Sagittaria latifolia* (broadleaf arrowhead, OBL) *Cornus sericea* ssp. *sericea* (redosier dogwood, FACW+) *Rhus typhina* (staghorn sumac, NI), *Quercus* sp. (oak) and *Carex* sp. (sedge). See Appendix B for the soils information specific to each sample point. Primary indicators of wetland hydrology included saturation in the upper 12 inches of the soil profile and wetland drainage patterns. Secondary indicators of wetland hydrology included oxidized rhizospheres within 12 inches of the soil profiles, water stained leaves on the ground surface and positive FAC-neutral tests. Based upon the dominant hydrophytic vegetation, hydric soil characteristics and primary and secondary indicators of wetland hydrology, these sample points were determined to be within the palustrine emergent/scrub-shrub/forested (PEM/SS/FO) wetland areas. The individual wetlands are identified and described in the Conclusions section.

6.2 Uplands

The remainder of the sample points were located in uplands throughout the site. The dominant vegetative species in uplands include *Dactylis glomerata* (orchardgrass, FACU), *Coronilla varia* (crown-vetch, NI), *Taraxacum officinale* (common dandelion, FACU-), *Robinia pseudoacacia* (black locust, FACU-), *Morus rubra* (red mulberry, FACU), *Rubus idaeus* (American red raspberry, FAC-), *Rumex crispus* (curly dock, FACU), *Alliaria petiolata* (garlic mustard, FACU-), *Zea mays* (corn, NI), *Lamium purpureum* (purple dead-nettle, NI), *Carya tomentosa* (mockernut hickory, NI), *Quercus alba* (white oak, FACU-), *Prunus avium* (sweet cherry, NI), *Lonicera tatarica* (Tatarian honeysuckle, FACU), *Rosa multiflora*, *Stellaria media* (common chickweed, UPL), *Parthenocissus quinquefolia* (Virginia creeper, FACU), *Quercus montana* (chestnut oak, UPL), *Quercus rubra* (northern red oak, FACU-), *Ambrosia artemisiifolia* (annual ragweed, FACU), *Nyssa sylvatica* (blackgum, FAC), *Acer rubrum*, *Lindera benzoin*, *Castanea dentata* (American chestnut, NI), *Vaccinium angustifolium* (lowbush blueberry, FACU-), *Juniperus virginiana* (eastern redcedar, FACU), *Rubus phoenicolasius* (wineberry, NI), *Lonicera japonica* (Japanese honeysuckle, FAC-), *Liriodendron tulipifera* (tuliptree, FACU), *Andropogon virginicus* (broomsedge bluestem, FACU), *Plantago lanceolata* (narrowleaf plantain, UPL), *Trifolium pratense* (red clover, FACU-), *Elaeagnus commutata* (silverberry, NI), *Phleum pratense* (Timothy, FACU), *Duchesnea indica* (Indian strawberry, FACU-), *Rubus allegheniensis* (Allegheny blackberry, FACU-), *Bromus japonicus* (Japanese chess, FACU), *Rubus occidentalis* (black raspberry, NI), *Erigeron annuus* (eastern daisy fleabane, FACU), *Cirsium arvense*, *Allium vineale* (wild garlic, FACU-), *Berberis thunbergii* (Japanese barberry, FACU), *Prunus serotina* (black cherry, FACU), *Rhus typhina*, *Acer platanoides* (Norway maple, NI), *Daucus carota* (Queen Anne's lace, NI), *Erythronium americanum* (yellow trout-lily, NI), *Echinochloa crus-galli* (barnyardgrass, FACU) and *Phytolacca americana* (American pokeweed, FACU+). See Appendix B for the soils information specific to each sample point. These sample points typically lacked the primary and secondary indicators of hydrology indicative of wetlands. Based upon the lack of dominant hydrophytic vegetation, lack of hydric soil characteristics and/or lack of

primary and secondary indicators of wetland hydrology, these sample points were determined to be within nonwetland areas.

6.3 “Waters of the United States”

RETTEW’s investigation determined that several watercourses, which are identified as unnamed tributaries to Bear Branch of Big Pipe Creek, exist on the Carroll County Regional Airport Site. The unnamed tributaries to Bear Branch of Big Pipe Creek were identified as “waters of the United States.” The individual streams are identified and described in the Conclusions section below.

7.0 CONCLUSIONS

RETTEW identified 14 wetlands and 8 streams on the Carroll County Regional Airport Site. These wetlands contained 14.867 acres within the area of investigation on the site. The wetland boundaries delineated by RETTEW were marked with pink and blue flagging. The soil pit sample points and wetland flags were located in the field and plotted on the project’s Wetland Location Plan.

Wetland #1 is identified as a large palustrine emergent/scrub-shrub/forested (PEM/SS/FO) wetland complex associated with Stream #1 and 2. This wetland is located on the south side of Pleasant Valley Road in the middle of the northern property line. Wetland #1 consists of 5.052 acres within the area of investigation.

Wetland #2 is identified as a small palustrine emergent (PEM) wetland associated with Stream #1 and #4. This wetland is located on the northeast portion of the site, at the confluence of Stream #1 and #4. Wetland #2 consists of 0.049 acres within the area of investigation.

Wetland #3 is identified as a PEM/SS wetland on the fringes of Stream #4. This wetland is located on the northeast portion of the site. Wetland #3 consists of 0.217 acres within the area of investigation

Wetland #4 is identified as a large PEM/SS/FO. This wetland is located on the northeast portion of the site and includes the headwaters of Stream #4. Wetland #4 consists of 1.749 acres within the area of investigation

Wetland #5 is identified as a large fringed, PEM/SS/FO wetland associated with Stream #1. This wetland is located on the northeast portion of the site. Wetland #5 consists of 0.452 acres within the area of investigation.

Wetland #6 is identified as a PEM/SS wetland. This wetland is located northwest of Old Meadow Branch Road and includes the headwaters of Stream #1. Wetland #6 consists of 0.293 acres within the area of investigation.

Wetland #7 is identified as a PEM/SS/FO wetland. This wetland is located near the center of the site, northwest of the runway and includes Stream #3. Wetland #7 consists of 0.874 acres within the area of investigation.

Wetland #8 is identified as a PEM/SS/FO wetland. The wetland is located on the northern and southern side of Pinch Valley Road near the intersection of Pinch Valley Road and Pleasant Valley Road. Wetland #8 consists of 0.883 acres.

Wetland #9 is identified as a large PEM/SS/FO wetland complex associated with Stream #5 and 7. This wetland is located on the northern and southern side of Pinch Valley Road near the north-central portion of the site. A small portion of Wetland #9 continues west offsite. Wetland #9 consists of 4.283 acres within the area of investigation.

Wetland #10 is identified as a PEM/SS/FO wetland associated with and includes the headwaters of Stream #6. This wetland is located near the north-central portion of the site. Wetland #10 consists of 0.342 acres within the area of investigation.

Wetland #11 is identified as a small PEM wetland located north of the northwestern end of the runway. Wetland #11 consists of 0.212 acres within the area of investigation.

Wetland #12 is identified as a small PEM/FO wetland associated with Stream #5. This wetland is located on the west-central property and continues west offsite. Wetland #12 consists of 0.105 acres within the area of investigation.

Wetland #13 is identified as a fringed PFO wetland associated with Stream #8. Wetland #13 consists of 0.301 acres within the area of investigation.

Wetland #14 is identified as a small PEM wetland. This wetland is located southwest of Meadow Branch Road and continues southwest offsite. Wetland #14 consists of 0.055 acres within the area of investigation.

Stream #1 is located on the northeast portion of the site and originates at Wetland #6. This stream flows in a northerly direction through Wetland #1 and continues north offsite. Stream #1 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #2 originates offsite on the northeastern side of Pleasant Valley Road. This stream flows in a westerly direction through Wetland #1 where converging with Stream #1. Stream #2 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #3 originates from a culvert at the beginning of Wetland #7. This stream flows in a northeasterly direction and converges with Stream #1. Stream #3 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #4 is located on the northeast portion of the site and originates at Wetland #4. This stream flows in a westerly direction through Wetland #3 and converges with Stream #1 at Wetland #2. Stream #4 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #5 originates offsite, flowing in a northerly direction through Wetlands #8 and 9. This stream continues north offsite. Stream #5 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #6 originates at Wetland #10. The stream flows in a northwesterly direction and converges with Stream #5 north of Wetland #9. Stream #6 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #7 originates at Wetland #9 and flows in a northeasterly direction through Wetland #9 where it converges with Stream #5. Stream #7 is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Stream #8 originates near the western property line and flows in a northerly direction offsite. This stream is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.

Wetlands, man-made ponds, and stream channels, intermittent or perennial, are regulated by the United States Army Corps of Engineers (USACOE) and the Maryland Department of Natural Resources and Environmental Control (DNREC) and any encroachments, fills, or crossing of these areas will require the proper State and Federal permits. Data on which this report is based are on file at RETTEW Associates' Lancaster, PA office.

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8.0 DISCLAIMER

The terms "wetlands" and "waters of the United States" as used in this report are RETTEW's interpretation of state and federal laws concerning wetland and watercourse identification.

The definition and delineation of wetlands on any specific site are subject to interpretation by various public agencies. RETTEW will, to the best of its ability, accurately delineate the wetlands limits based on current regulations and the firm's experience with the public agencies. RETTEW cannot, however, guarantee that the public agencies involved will concur with those limits. A joint agreement of the United States Environmental Protection Agency, United States Army Corps of Engineers and the Maryland Department of Natural Resources and Environmental Control is required for a jurisdictional wetland boundary to be set in the state of Maryland. All wetland boundaries in this report are estimates of the jurisdictional wetland limits unless otherwise stated.

All mention of regulations and laws are RETTEW's interpretation of state and federal regulations and/or laws, and should not be taken as legal advice.

9.0 LITERATURE CITED

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10.0 REGULATORY DEFINITIONS

Waters of the United States: are “all waters which are subject to the ebb and flow of the tide and also, waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds of which the use, degradation, or destruction of could affect interstate or foreign commerce”. (U. S. Army Corps of Engineers 33 CFR 328.3)

Watercourses: are “Any channel of conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.” (PA Department of Environmental Protection Chapter 105.1)

Perennial streams: have flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall (or snowmelt) is supplemental source of water for stream flow (CFR March 9, 2000, page 12898).

Intermittent streams: have flowing water during certain periods of the year and October not have flowing water during dry periods. Groundwater provides water for stream flow. Runoff from rainfall or snowmelt is supplemental source of water.

Ephemeral streams: have flowing water only during and for a short duration after precipitation events in a typical year. They are located above the water table year-round and groundwater is not a source of water for the stream.

Drainage ditches: a linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another.

Wetlands: are “Those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support the prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.” (Environmental Protection Agency 40 CFR 230.3 and U. S. Army Corps of Engineers 33 CFR 328.3)

Nonwetlands: are uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season, and, if vegetated, they normally support a prevalence of vegetation typically adapted for life only in aerobic soil conditions.

APPENDIX A
FIELD DATA SHEETS

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S#A1
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): north end of Trans A, scrub wetland just S of Pleasant Valley Road

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Fraxinus pennsylvanica</i>	FACW	T	6. <i>Veronica noveboracensis</i>	FACW	H
2. <i>Cornus sericea</i>	FACW	Sh	7. <i>Solidago</i>	—	H
3. <i>Viburnum recognatum</i>	FACW	Sh	8. <i>Epilobium coloratum</i>	OBL	L1
4. <i>Acer rubrum</i>	FAC	T	9.		
5. <i>Juncus effusus</i>	FACW*	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 100% Results of FAC-neutral Test 100%

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragiudults

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-12	2.5Y 5/2	7.5YR 4/6	C/D
B 12-18	2.5Y 7/2	10YR 5/8	C/D

Mapping unit listed on a local hydric soil list? Mapping unit list on the national hydric soil list?
 Histic epipedon present? Sesquioxide Concretions?
 Sulfidic Odor? High Organic A-horizon in Sandy Soils?
 Gleyed or Low-Chroma colors? Organic Streaking/Spodic Horizon?
 Mapped Series/Phase Confirmed in Field? Aquic/paraquic moisture regime?
 Alpha, Alpha Dipyridal Test

Remarks: Moist silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 718
 Primary Indicators: 1 Secondary Indicators (2 or more required): 2

Observed Inundation Oxidized Rhizospheres within 12 inches
 Saturated in Upper 12 inches Water-stained Leaves
 Water Marks FAC-neutral Test
 Drift Lines Hydrologic Field Data (site specific)
 Sediment Deposits
 Wetland Drainage Pattern

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: PEM/SS

Additional comments: Wet #1, large PEM/SS complex, possibly a restored wetland

We answer to you.

Field Investigator(s) JKP/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# A2
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): successional field East of Stream #1

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: prob. old ag field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Juniperus virginiana</i>	FACU	S4	6. <i>Allium vineale</i>	FACU-	H
2. <i>Melilotus</i> sp.	—	S4	7. <i>Daucus carota</i>	N1	H
3. <i>Rosa multiflora</i>	FACU	S4	8.		
4. <i>Solidago</i> sp.	—	H	9.		
5. <i>Lamium purpureum</i>	N1	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 6 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: BaA Taxonomic Subgroup: Typic Ochraqualfs

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-18</u>	<u>2.5Y 4/3</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil base

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7.18
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input checked="" type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: no 1° or 2°

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments:

no 1° or 2°
no 1st prob planted w/ trees (conservation area)

We answer to you.

Field Investigator(s) JPB/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# A3
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): mature upland woods S of Pleasant Valley Rd.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Liriodendron tulipifera</i>	FACU	T	6. <i>Lindera benzoin</i>	FACW	S
2. <i>Acer rubrum</i>	FAC	T	7. <i>Viburnum prunifolium</i>	FACU	SL
3. <i>Nyssa sylvatica</i>	FAC	T	8. <i>Pseudotsuga verticillata</i>	FACU	H
4. <i>Quercus alba</i>	FACU	T	9. <i>Fraxinus pennsylvanica</i>		H
5. <i>Fraxinus pennsylvanica</i>	FACW	T	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 50 Results of FAC-neutral Test 40

SOILS

Mapped Series/Phase: _____ Taxonomic Subgroup: _____

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-10	10YR 4/3	—	
B 10-18	10YR 5/6	—	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 1 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: _____ |

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: W channel bank of Pleasant Valley Rd.

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# A4
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): North of wet woodlot, off Old Meadow Branch Road, surrounded by fields

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Aster rubrum</i>	FAC	T	6. <i>Cirsium arvense</i>	FACW	U
2. <i>Salix nigra</i>	FACW	T	7. <i>Thalictrum flavum</i>	FAC	U
3. <i>Rosa multiflora</i>	FACW	Sh	8. <i>Ornithoglossum</i>	FACW	U
4. <i>Impatiens capensis</i>	FACW	H	9.		
5. <i>Solidago sp.</i>	-	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 171 Results of FAC-neutral Test slp

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fraguide H

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-15	7.5Y 4/2		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: _____

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 5
 Primary Indicators: 2 Secondary Indicators (2 or more required): 3

- | | |
|--|--|
| <input type="checkbox"/> Observed Inundation | <input checked="" type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input checked="" type="checkbox"/> Saturated in Upper 12 inches | <input checked="" type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input checked="" type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input checked="" type="checkbox"/> Wetland Drainage Pattern | |

Remarks: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: PERM, etc

Additional comments: _____

Wetland. Wet woodlot, adjacent drainage of fields

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S#A5
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Edge of woodlot, N of Old Station Farm - Road, active ag. to S.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Morus rubra</u>	<u>FACW</u>	<u>T</u>	6. <u>Solidago sp.</u>	<u>—</u>	<u>V</u>
2. <u>Solidago sp.</u>	<u>FACW</u>	<u>T</u>	7. <u>Viburnum sp.</u>	<u>—</u>	<u>V</u>
3. <u>Rosa multiflora</u>	<u>FACW</u>	<u>T</u>	8.		
4. <u>Impatiens capensis</u>	<u>FACW</u>	<u>U</u>	9.		
5. <u>Alliaria petiolata</u>	<u>FACW</u>	<u>U</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 40 Results of FAC-neutral Test 40

SOILS

Mapped Series/Phase: MED2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-10</u>	<u>10 YR 5/1</u>	<u>—</u>	
<u>B 16-18</u>	<u>2.5 Y 6/6</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7.2
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: No 1st 2nd

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments:

dry soil
Wetlands

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JKP/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# B1
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): row 1 field on hilltop S of old Mason Road

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: field, some trees removed

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Cirsium arvense</u>	<u>FACW</u>	<u>✓</u>	6.		
2. <u>Agrostis alba</u>	<u>FACW</u>	<u>✓</u>	7.		
3. <u>Cyperus sp.</u>	<u>NT</u>	<u>✓</u>	8.		
4. <u>Echinochloa sp.</u>	<u>FACW</u>	<u>✓</u>	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: G-1B2 Taxonomic Subgroup: Typic Hapludults

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A-1</u>	<u>7.5YR 4/4</u>	<u>10YR 4/2</u>	<u>5/0</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry site, some trees

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 2.5
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: 10/2/08

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: ✓

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# B2
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Successional upland wood edge, 200' east corner of runway 11 of OIA Airport

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Rubus perfoliatus</u>	<u>FACW</u>	<u>✓</u>	6. <u>Urtica dioica</u>	<u>FACW</u>	<u>✓</u>
2. <u>Urtica dioica</u>	<u>FACW</u>	<u>✓</u>	7. <u>Sambucus racemosa</u>	<u>FACW</u>	<u>✓</u>
3. <u>Rosa multiflora</u>	<u>FACW</u>	<u>✓</u>	8. _____		
4. <u>Alliaria petiolata</u>	<u>FACW</u>	<u>✓</u>	9. _____		
5. <u>Lonicera japonica</u>	<u>NI</u>	<u>✓</u>	10. _____		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragindultic

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-2</u>	<u>10 YR 1/1</u>	<u>—</u>	
<u>B 2-13</u>	<u>10 YR 5/4</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 20"
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>20" 20"</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: _____

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# 133
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Wetland area at field (winter 1980), just S of bed about 1000m.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: none

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Sagittaria arifolia</u>	<u>1/1</u>	<u>4</u>	6. <u>Panicum heterophyllum</u>	<u>FACW</u>	<u>4</u>
2. <u>Rosa blanda</u>	<u>5/5</u>	<u>1/1</u>	7.		
3. <u>Alliaria petiolata</u>	<u>5/5</u>	<u>4</u>	8.		
4. <u>Thalictrum flavum</u>	<u>1/1</u>	<u>1</u>	9.		
5. <u>Sagittaria arifolia</u>	<u>1/1</u>	<u>1</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 16 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: Hg Taxonomic Subgroup: Typic Fluvaquents

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A₀₋₁₄</u>	<u>2.5+ 5/3</u>	<u>3/3 2/10</u>	<u>1/10</u>
<u>B₁₄₋₁₈</u>	<u>2.5+ 5/3</u>		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyrical Test |

Remarks: dry 6/12/08

HYDROLOGY

Depth of ground surface inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 24
 Primary Indicators: 0 Secondary Indicators (2 or more required): 1

- | | |
|---|--|
| <input type="checkbox"/> Observed Inundation | <input checked="" type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>0</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: 0

Additional comments: low soil at edge of field, possible water

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# 64
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): occasional field just S of 2nd runway at terminal

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: occasional field just S of 2nd runway at terminal

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Sparganium angustifolium</u>	<u>70%</u>	<u>5</u>	6.		
2. <u>Potamogeton amplifolius</u>	<u>50%</u>	<u>5</u>	7.		
3. <u>Sagittaria arifolia</u>	<u>10%</u>	<u>5</u>	8.		
4. <u>Sagittaria arifolia</u>	<u>10%</u>	<u>5</u>	9.		
5. <u>Sagittaria arifolia</u>	<u>10%</u>	<u>5</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragiudults

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A0-14</u>	<u>10YR 4/3</u>	<u>—</u>	
<u>B10-19</u>	<u>10YR 5/1</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry pit

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>No</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments: 2

RETTEW_{SM} ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# 05
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Forest edge of airport in Zone B

Check Primary Wetland Delineation Guidance Manual: Y 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: roadside gravel fill

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Ostrya glaberrima</u>	<u>FACW</u>	<u>0</u>	6.		
2. <u>Quercus sp.</u>	<u>M</u>	<u>0</u>	7.		
3. <u>Prunella serotina</u>	<u>FACW</u>	<u>0</u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragulidic

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-8</u>	<u>10YR 4/3</u>	<u>—</u>	
<u>B 8-11</u>	<u>10YR 5/2</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyrical Test |

Remarks: for soil bank

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7"
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>—</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments: —

RETTEWTM ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# C1
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): along ag. field on SE end of Tract C

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: along ag. field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Andropogon virginicus</i>	+	U	6.		
2. <i>Oenothera caroliniana</i>	U	H	7.		
3. <i>E. virginiana</i>	UPL	H	8.		
4. <i>Solidago sp.</i>	-	H	9.		
5. <i>Lernaeum purpureum</i>	NI	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MHC Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-12	7.5YR 4/4		
B 12-18	7.5YR 5/6		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 710
 Primary Indicators: 1 Secondary Indicators (2 or more required): 1

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1° or 2°</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: 2

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08

Project Site: Carroll County Regional Airport Sample ID: S# C2

State: MD County: Carroll Township: Westminster

Sample Location (Descriptive): active pasture just N of small stream, 1/4 mi. N of Truss 2 on

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:

Is the area a potential problem area? Yes: No:

Describe Disturbance/Problematic Features: active pasture

Burner Property

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Morus rubra</u>	<u>FACW</u>	<u>T</u>	6.		
2. <u>Rosa multiflora</u>	<u>FACW</u>	<u>Sh</u>	7.		
3. <u>Plantago major</u>	<u>FACW</u>	<u>W</u>	8.		
4. <u>Solidago sp.</u>	<u>-</u>	<u>W</u>	9.		
5. <u>Duchesnea indica</u>	<u>FACW</u>	<u>W</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MtE Taxonomic Subgroup: Typic Dystrochrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-14</u>	<u>7.5YR 4/1</u>		
<u>B 14-19</u>	<u>7.0YR 6/6</u>	<u>10YR 4/1</u>	<u>F/O</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7 1/8

Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: no 1° or 2°

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments: U

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# C3
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): mowed lawn just N of driveway on Brandy Property

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: mowed lawn

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Poa sp.</u>	<u>—</u>	<u>H</u>	6.		
2. <u>Taraxacum officinale</u>	<u>FACU</u>	<u>H</u>	7.		
3.			8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MtC2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-6</u>	<u>7.5YR 4/1</u>	<u>—</u>	
<u>B6-12</u>	<u>10YR 4/6</u>		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: Dry strong soil

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7.8
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 100%</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments: V

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# C4
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): mature upland woods soil County Prop on Truss "C"

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Quercus montana</u>	<u>UPL</u>	<u>T</u>	6.		
2. <u>Quercus rubra</u>	<u>FACW</u>	<u>Sh/T</u>	7.		
3. <u>Prunus avium</u>	<u>MI</u>	<u>Sh</u>	8.		
4. <u>Vaccinium angustifolium</u>	<u>FACW</u>	<u>Sh</u>	9.		
5. <u>Rubus idaeus</u>	<u>FAC</u>	<u>U</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MEC2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>O/A 0-2</u>	<u>7.5YR 3/2</u>		
<u>B 2-18</u>	<u>7.5YR 5/6</u>		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil loans

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: no 1 or 2

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: W

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JKP/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# C5
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): edge of active ag field & mowed lawn, Nat Finch Valley Rd on Truss E

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: active ag & mowed lawn

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Berula pinnatifida</i>	NI	U	6. <i>Plantago lanceolata</i>	UPL	U
2. <i>Stellaria media</i>	UPL	U	7. <i>Stellaria media</i>	UPL	U
3. <i>Laminium perparum</i>		U	8.		
4. <i>Poa sp.</i>		U	9.		
5. <i>Carex obliquata</i>	FACW	U	10.		

AG
LAWN

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MeD₂ Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-6</u>	<u>7.5YR 4/4</u>	<u>—</u>	
<u>B 6-18</u>	<u>7.5YR 5/6</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 718
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: 178 1/20

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: <u>—</u> |

Additional comments: —

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4/29/08
 Project Site: Carroll County Regional Airport Sample ID: S# 06
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): upland woods S of Pinch Valley Rd.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Quercus montana</i>	NPL	T	6. <i>Vaccinium angustifolium</i>	FACU	SL
2. <i>Q. alba</i>	FACU	T	7. <i>Rubus idaeus</i>	FAC-	H
3. <i>Acer rubrum</i>	FAC	T	8. <i>Toxicodendron radicans</i>	FAC	✓
4. <i>Carya ovata</i>	FACU	T	9.		
5. <i>Prunus serotina</i>	NI	SL/T	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 14 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: M11 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A0-4	7.5YR 3/3		
B 4-18	7.5YR 5/6		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil beam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 710
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1" or 2"</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: V

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4-29-09
 Project Site: Carroll County Regional Airport Sample ID: S# C7
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): active ag field 50ft horse pasture, N of Municipal Complex

Check Primary Wetland Delineation Guidance Manual: X 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: active ag field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Zea mays (stubble)</u>	<u>NI</u>	<u>NI</u>	6.		
2. <u>Glycine max (stubble)</u>	<u>NI</u>	<u>NI</u>	7.		
3. <u>Stellaria media</u>	<u>UPL</u>	<u>UPL</u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: Mtc2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>Ap 6-12</u>	<u>7.5YR 4/4</u>	<u>---</u>	
<u>B 12-18</u>	<u>7.5YR 5/6</u>	<u>---</u>	

- Mapping unit listed on a local hydric soil list? Mapping unit list on the national hydric soil list?
- Histic epipedon present? Sesquioxide Concretions?
- Sulfidic Odor? High Organic A-horizon in Sandy Soils?
- Gleyed or Low-Chroma colors? Organic Streaking/Spodic Horizon?
- Mapped Series/Phase Confirmed in Field? Aquic/paraquic moisture regime?
- Alpha, Alpha Dipyridal Test

Remarks: dry stony silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 716
 Primary Indicators: ✓ Secondary Indicators (2 or more required): ---

- Observed Inundation Oxidized Rhizospheres within 12 inches
- Saturated in Upper 12 inches Water-stained Leaves
- Water Marks FAC-neutral Test
- Drift Lines Hydrologic Field Data (site specific)
- Sediment Deposits
- Wetland Drainage Pattern

Remarks: No 1" or 2"

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
- Hydric Soils Present? Yes No
- Wetland Hydrology Present? Yes No Wetland Classifications: ---

Additional comments: ✓

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4-29-08
 Project Site: Carroll County Regional Airport Sample ID: S# 08
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): mowed field just north of large SWM basin, N of County Maint. Camp 100

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:

Is the area a potential problem area? Yes: No:

Describe Disturbance/Problematic Features: routinely mowed field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Dactylis glomerata</u>	<u>FACW</u>	<u>H</u>	6.		
2. <u>Corynephila varia</u>		<u>H</u>	7.		
3. <u>Taraxacum officinale</u>	<u>FACW-</u>	<u>H</u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragiudals

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0 18</u>	<u>10YR 4/4</u>	<u>10YR 3/1</u>	<u>F/D</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyrical Test |

Remarks: dry till basin

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: / Secondary Indicators (2 or more required): /

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no / 0.2°</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments: v

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4-29-08
 Project Site: Carroll County Regional Airport Sample ID: S# C9
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): edge of successional woodland active as field, 6 ft Old Meadow Brook Rd
County Maint. Camp

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:

Is the area a potential problem area? Yes: No:

Describe Disturbance/Problematic Features: adjacent as field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Robinia pseudoacacia</u>	<u>FACW</u>	<u>T</u>	6. <u>Vitis Sessile coccinea</u>	<u>NT</u>	<u>U</u>
2. <u>Morus rubra</u>	<u>FACW</u>	<u>T</u>	7. <u>Alliaria petiolata</u>	<u>FACW</u>	<u>U</u>
3. <u>Rubus idaeus</u>	<u>FAC-</u>	<u>U</u>	8.		
4. <u>Rumex crispus</u>	<u>FACW</u>	<u>U</u>	9.		
5. <u>Solidago sp.</u>	<u>-</u>	<u>U</u>	10.		

AG FIELD

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test

SOILS

Mapped Series/Phase: MJCS Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-10</u>	<u>10YR 4/1</u>	<u>-</u>	
<u>B 10-18</u>	<u>10YR 5/6</u>	<u>-</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 5 Depth to Free Standing Water in soil Pit (inches) 71"

Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1" or 2"</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: <u> </u> |

Additional comments:

small stream across gully drains
adj. developed area & ag fields

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 4-29-08
 Project Site: Carroll County Regional Airport Sample ID: S# C10
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): successional woods just N of Old Middlebrook Rd. Sol

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Acer platanoides</u>	<u>NI</u>	<u>T</u>	6. <u>Alliaria petiolata</u>	<u>FACW-</u>	<u>H</u>
2. <u>Prunus serotina</u>	<u>FACW</u>	<u>T</u>	7. <u>Allium vineale</u>	<u>FACW-</u>	<u>H</u>
3. <u>Myrica rubra</u>	<u>FACW</u>	<u>T</u>	8.		
4. <u>Rosa multiflora</u>	<u>FACW</u>	<u>Sh</u>	9.		
5. <u>Rubus</u>			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fragindutte

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-10</u>	<u>10YR 4/3</u>	<u>—</u>	
<u>B 10-18</u>	<u>10YR 5/4</u>	<u>10YR 5/3</u>	<u>1/0</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7 1/2
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1° or 2°</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: W

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5-7-08
 Project Site: Carroll County Regional Airport Sample ID: S# 01
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): active of field just E of driveway, on Osbourne Farm

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: active of field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Fragaria (Strawberry)</u>	<u>NI</u>	<u>H</u>	6.		
2. <u>Laminium purpureum</u>	<u>NI</u>	<u>H</u>	7.		
3. <u>Taraxacum officinale</u>	<u>FACU</u>	<u>H</u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MtC2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-12</u>	<u>7.5 YR 4/4</u>	<u>—</u>	
<u>B1 2-18</u>	<u>7.5 YR 4/4</u>	<u>7.5 YR 6/8</u>	<u>2/10</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: Dry silt 15cm

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: — Secondary Indicators (2 or more required): —

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1" or 2"</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments: —

RETTEW ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5-7-08
 Project Site: Carroll County Regional Airport Sample ID: S# D2
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Mature upland woods Ed of fields around O'Brien house

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Carya rostrata</i>	—	T	6. <i>Podophyllum peltatum</i>	FACU	H
2. <i>Quercus alba</i>	FACU	T	7. <i>Alliaria petiolata</i>	FACU-	H
3. <i>Prunus avium</i>	NI	T/S	8. <i>Stellaria media</i>	UPL	H
4. <i>Lonicera tatarica</i>	FACU	S	9. <i>Buttercup</i>	FACU	✓
5. <i>Rosa multiflora</i>	FACU	SM	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MtE Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-4</u>	<u>7.5YR 3/3</u>	—	
<u>B 4-12</u>	<u>7.5YR 4/4</u>	—	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyrical Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: ✓ Secondary Indicators (2 or more required): ✓

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no !°??</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments:

Some successional / invasive sp. present on edge of wetland forest

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5-7-08
 Project Site: Carroll County Regional Airport Sample ID: S# D3
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Small loop draining into STR #8, within large wooded valley

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Quercus Sp</i>		T	6.		
2. <i>Lindera benzoin</i>	FACW-	Sh	7.		
3. <i>Rosa multiflora</i>	FACV	Sh	8.		
4. <i>Symplocarpus foetidus</i>	OBL	st	9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 6% Results of FAC-neutral Test 50

SOILS

Mapped Series/Phase: MFE Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-3</u>	<u>10 YR 3/3</u>	<u>—</u>	
<u>B 5-19</u>	<u>10 YR 4/2</u>	<u>10 YR 5/L</u>	<u>F/F</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: Saturated gravelly soils

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 0
 Primary Indicators: 2 Secondary Indicators (2 or more required): 2

- | | |
|--|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input checked="" type="checkbox"/> Saturated in Upper 12 inches | <input checked="" type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input checked="" type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input checked="" type="checkbox"/> Wetland Drainage Pattern | Remarks: _____ |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: PSS/Fa

Additional comments:

Wet #2E, one of several fringe wetlands along stream #8

We answer to you.

Field Investigator(s) JKP/BJK/JTH Date: 5-7-08
 Project Site: Carroll County Regional Airport Sample ID: S# D4
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): Mature upland woods just E of STR #8 & W of D & E

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Nyssa sylvatica</i>	FAC	T	6. <i>Castanea dentata</i>	NT	Sh
2. <i>Quercus montana</i>	UPL	T	7. <i>Vaccinium angustifolium</i>	FACU	Sh
3. <i>Acer rubrum</i>	FAC	T	8.		
4. <i>Lindera benzoin</i>	FACW	Sh	9.		
5. <i>Parthenocissis quinquefolia</i>	FACU	✓	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MtE Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>0 0-2</u>	<u>10YR 2/1</u>	<u>—</u>	
<u>A 2-18</u>	<u>7.5YR 5/6</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry soil

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 718
 Primary Indicators: ✓ Secondary Indicators (2 or more required): ✓

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1' or 2'</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments:

2

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# D5
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): edge of active pasture + mature woods just W of farmstead

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance

Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:

Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:

Is the area a potential problem area? Yes: No:

Describe Disturbance/Problematic Features: active horse pasture

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Quercus montana</u>	<u>UPL</u>	<u>T</u>	6.		
2. <u>Quercus rubra</u>	<u>FACW</u>	<u>T/Sk</u>	7.		
3. <u>Ambrosia artemisiifolia</u>	<u>FACW</u>	<u> </u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) Results of FAC-neutral Test

SOILS

Mapped Series/Phase: ME05 Taxonomic Subgroup: Typic Dystric

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-3</u>	<u>7.5YR 3/2</u>	<u>---</u>	
<u>B 3-12</u>	<u>7.5YR 4/6</u>	<u>---</u>	

Mapping unit listed on a local hydric soil list?

Histic epipedon present?

Sulfidic Odor?

Gleyed or Low-Chroma colors?

Mapped Series/Phase Confirmed in Field?

Mapping unit list on the national hydric soil list?

Sesquioxide Concretions?

High Organic A-horizon in Sandy Soils?

Organic Streaking/Spodic Horizon?

Aquic/peraquic moisture regime?

Alpha, Alpha Dipyrical Test

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 21

Primary Indicators: Secondary Indicators (2 or more required):

Observed Inundation

Saturated in Upper 12 inches

Water Marks

Drift Lines

Sediment Deposits

Wetland Drainage Pattern

Oxidized Rhizospheres within 12 inches

Water-stained Leaves

FAC-neutral Test

Hydrologic Field Data (site specific)

Remarks: h₂ 1st - 2nd

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No

Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No

Is this sample location within a wetland? Yes No

Wetland Classifications: _____

Additional comments: 2

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# DC
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): successional woods b/w large eq field on top of hill @ Punch Valley Rd.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Acer rubrum</i>	FAC	T	6. <i>Impatiens virginiana</i>	FACW	Sh
2. <i>Fraxinus ovium</i>	NI	T	7. <i>Solidago sp.</i>	—	H
3. <i>Rubus pennsylvanicus</i>	FACW	T	8. <i>Rubus phoenicolasia</i>	NI	H
4. <i>Lonicera heterocarpa</i>	FACW	Sh	9. <i>Dactylis glomerata</i>	FACW	H
5. <i>Ros. multiflora</i>	FACW	Sh	10. <i>Lonicera japonica</i>	FACW	✓

Percentage OBL, FACW, or FAC species (excluding FAC-) 11 Results of FAC-neutral Test

SOILS

Mapped Series/Phase: MED₂ Taxonomic Subgroup: Typic Dystracrets

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-2</u>	<u>7.5YR 4/4</u>	<u>—</u>	
<u>B 2-12</u>	<u>7.5YR 5/6</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry salt beam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7 1/2
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1' or 2'</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments: ✓

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# 07
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): N-side of large wetland complex adj. pinch rd to sp. Rd.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Carex stricta</i>	OBL	H	6. <i>Impatiens capensis</i>	FACW	H
2. <i>Typha latifolia</i>	OBL	H	7.		
3. <i>Carex sp.</i>	—	H	8.		
4. <i>Juncus effusus</i>	FACW	H	9.		
5. <i>Solidago sp.</i>	—	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 100 Results of FAC-neutral Test 100

SOILS

Mapped Series/Phase: Ht Taxonomic Subgroup: Typic Fluvaquents

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 6-4	7.5YR 3/2	—	
B 4-19	7.5YR 5/1	10YR 5/2	C/D

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: moist clayey silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 718
 Primary Indicators: 1 Secondary Indicators (2 or more required): 2

- | | |
|--|--|
| <input type="checkbox"/> Observed Inundation | <input checked="" type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input checked="" type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input checked="" type="checkbox"/> Wetland Drainage Pattern | Remarks: _____ |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: PFM

Additional comments:

Wet #9

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# D8
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): scrub/successional woods just S of We #9, Sol. Patch W. of R1,

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance Not fence
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: field/scrub woods periodically mowed for airport runway clearance

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Prunus avium</u>	<u>NI</u>	<u>T/S</u>	6. <u>Andropogon virginicus</u>	<u>FACU</u>	<u>H</u>
2. <u>Liquidambar styraciflua</u>	<u>FACU</u>	<u>S</u>	7. <u>Tripsacum daniellii</u>	<u>FAC</u>	<input checked="" type="checkbox"/>
3. <u>Lonicera heterocla</u>	<u>FACM*</u>	<u>S</u>	8.		
4. <u>Rosa multiflora</u>	<u>FACU</u>	<u>S</u>	9.		
5. <u>Solidago sp</u>	<u>-</u>	<u>H</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MfE Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-16</u>	<u>10 YR 5/1</u>	<u>-</u>	
<u>B 16-18</u>	<u>10 YR 6/6</u>	<u>-</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyrilal Test |

Remarks: dry site 10 am

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7.8
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: h2 / 1000 ?

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments: [Signature]

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# 09
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): paved area outside fence 2nd entrance to airport, typical of

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: mowed grass

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Soil</u>			6.		
2. <u>Plantain</u>	<u>UPI</u>		7.		
3. <u>Ranunculus</u>			8.		
4. <u>Trifolium pratense</u>	<u>FACW</u>		9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MHC₂ Taxonomic Subgroup: TYPIC Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A0-4</u>	<u>10YR 5/6</u>		
<u>4-6 cm</u>			

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: shallow soil below surface

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) >18
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: Negativity of Secondary

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments:

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# 110
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): periodically mowed field on far side of road

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: periodically mowed field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Elymus umbellata</u>	<u>NI</u>	<u>S</u>	6. <u>Carex sp.</u>	<u>NI</u>	<u>T</u>
2. <u>Juncus sp.</u>	<u>FACW</u>	<u>T</u>	7.		
3. <u>Poa sp.</u>	<u>FACW</u>	<u>T</u>	8.		
4. <u>Dactyloctenium aegyptium</u>	<u>FACW</u>	<u>T</u>	9.		
5. <u>Setaria sp.</u>	<u>FACW</u>	<u>NY</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: GVA Taxonomic Subgroup: Aquic Fraginduits

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A0-10</u>	<u>7.5Y 2/2</u>	<u>—</u>	

- Mapping unit listed on a local hydric soil list? Mapping unit list on the national hydric soil list?
- Histic epipedon present? Sesquioxide Concretions?
- Sulfidic Odor? High Organic A-horizon in Sandy Soils?
- Gleyed or Low-Chroma colors? Organic Streaking/Spodic Horizon?
- Mapped Series/Phase Confirmed in Field? Aquic/paraquic moisture regime?
- Alpha, Alpha Dipyridal Test

Remarks: by site

HYDROLOGY

Depth of ground surface Inundation (inches) 3 Depth to Free Standing Water in soil Pit (inches) 21
 Primary Indicators: — Secondary Indicators (2 or more required): —

- Observed Inundation Oxidized Rhizospheres within 12 inches
- Saturated in Upper 12 inches Water-stained Leaves
- Water Marks FAC-neutral Test
- Drift Lines Hydrologic Field Data (site specific)
- Sediment Deposits
- Wetland Drainage Pattern

Remarks: no 1' or 2'

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: —

Additional comments: V

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# E1
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): mature upland woods on NW corner of site

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Quercus montana</i>	UPI	T/SH	6. <i>Prunus avium</i>	NI	SH
2. <i>Quercus rubra</i>	FACU	T	7.		
3. <i>Carya tomentosa</i>	NI	T	8.		
4. <i>Lysichiton alberticus</i>	FAC	T/SH	9.		
5. <i>Rubus alleghaniensis</i>		H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) _____ Results of FAC-neutral Test _____

SOILS

Mapped Series/Phase: MtD2 Taxonomic Subgroup: Typic Oxytrochrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>0/A 0-2</u>	<u>10YR 2/2</u>	<u>—</u>	
<u>B 2-18</u>	<u>7.5YR 5/6</u>	<u>—</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: ✓ Secondary Indicators (2 or more required): ✓

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>no 1st or 2nd</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: _____ |

Additional comments: W

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# E2
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): old fallow field E of Industrial Rd, NW of Transit

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: old ag field, periodically mowed

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Rosa multiflora</u>	<u>FACU</u>	<u>SH</u>	6. <u>Solidago</u>	<u>---</u>	<u>H</u>
2. <u>Lonicera tatarica</u>	<u>FACU*</u>	<u>SH</u>	7.		
3. <u>Dactylis glomerata</u>	<u>FACU</u>	<u>H</u>	8.		
4. <u>Bromus japonicus</u>	<u>FACU</u>	<u>H</u>	9.		
5. <u>Rubus occidentalis</u>	<u>NI</u>	<u>✓</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) Results of FAC-neutral Test

SOILS

Mapped Series/Phase: Mec2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 6-18</u>	<u>7.5YR 1/4</u>	<u>---</u>	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam, slightly channery

HYDROLOGY

Depth of ground surface Inundation (inches) 6 Depth to Free Standing Water in soil Pit (inches) 7.2
 Primary Indicators: Secondary Indicators (2 or more required):

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: no 1" or 2"

JURISDICTIONAL DETERMINATION AND RATIONALE

- Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: ✓

We answer to you.

Field Investigator(s) JKP/BJK/JTH Date: 5/8 /08
 Project Site: Carroll County Regional Airport Sample ID: S# E3
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): active ag field adj. Indian Head Rd.

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: active ag field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Zoostera maritima (stable)</u>	<u>NI</u>	<u>H</u>	6.		
2. <u>Stellaria media</u>	<u>UPL</u>	<u>H</u>	7.		
3. <u>Taraxacum officinale</u>	<u>FACU</u>	<u>H</u>	8.		
4.			9.		
5.			10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: Mec2 Taxonomic Subgroup: Typic Dystracrypts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>Ap 0-12</u>	<u>7.5YR 4/4</u>	<u>---</u>	
<u>B 12-18</u>	<u>7.5YR 4/4</u>	<u>7.5YR 5/6</u>	<u>CD</u>

- more of mottled matrix as opposed to true mottling

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipryidal Test |

Remarks: dry soil here

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 718
 Primary Indicators: --- Secondary Indicators (2 or more required): ---

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: h. i. c. ?

JURISDICTIONAL DETERMINATION AND RATIONALE

- | | |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is this sample location within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Wetland Classifications: <u>---</u> |

Additional comments:

W

sample pt. typical of ag fields that cover this field

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# E4
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): top of emergent wetland S of large ag field, N of Pinch Valley Rd

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Leersia orizoides</i>	OBL	H	6.		
2. <i>Impatiens capensis</i>	FACW	H	7.		
3. <i>Carex</i> sp.	—	H	8.		
4. <i>Juncus effusus</i>	FACW	H	9.		
5. <i>Sagittaria latifolia</i>	OBL	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 100 Results of FAC-neutral Test 100

SOILS

Mapped Series/Phase: Mec2 Taxonomic Subgroup: Typic Dystrachrepts

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
A 0-3	10YR 2/2	—	
B 3-18	10Y 4/1	—	

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: moist 100%

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 78
 Primary Indicators: 1 Secondary Indicators (2 or more required): 1

- | | |
|--|--|
| <input type="checkbox"/> Observed Inundation | <input checked="" type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input checked="" type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input checked="" type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input checked="" type="checkbox"/> Wetland Drainage Pattern | Remarks: _____ |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: PEM

Additional comments:

*Wet # 9B, connects to rest of wetland
 Wet # 9, complete wetland with
 outside ditch*

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) JPK/BJK/JTH Date: 5/8/08
 Project Site: Carroll County Regional Airport Sample ID: S# E6
 State: MD County: Carroll Township: Westminster
 Sample Location (Descriptive): adj to W boundary of site, edge of successional field and successional

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: partially plowed/mowed

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <u>Acer rubrum</u>	<u>FAC</u>	<u>T/sh</u>	6. <u>Zea mays (cult)</u>	<u>NI</u>	<u>H</u>
2. <u>Rosa multiflora</u>	<u>FAC</u>	<u>H</u>	7. <u>Taraxacum officinale</u>	<u>FACU</u>	<u>H</u>
3. <u>Solidago sp.</u>	<u>FACU</u>	<u>H</u>	8. <u>Cirsium arvense</u>	<u>FACU</u>	<u>H</u>
4. <u>Lamium purpureum</u>	<u>NI</u>	<u>H</u>	9.		
5. <u>Erigeron annuus</u>	<u>FACU</u>	<u>H</u>	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 14% Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MEE Taxonomic Subgroup: Typic Dystricceptis

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-18</u>	<u>10YR 5/6</u>		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/peraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7/8
 Primary Indicators: - Secondary Indicators (2 or more required): -

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>none</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: -

Additional comments:

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) BSK, JTH Date: 5/13/08
 Project Site: Carroll Co. Airport Sample ID: S# E7
 State: MO County: Carroll Township: Town of Westminster
 Sample Location (Descriptive): West end of site on Miller property, edge of field and woods

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: edge of ag field

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Prunus serotina</i>	FACU	T	6. <i>Alliaria petiolata</i>	FACU-	H
2. <i>Rhus typhina</i>	NI	Sh	7. <i>Zea mays (stubbles)</i>	NT	H
3. <i>Rubus phoenicifolius</i>	NI	Sh	8. <i>Oxalis</i>	-	H
4. <i>Rosa multiflora</i>	FACU	Sh	9. <i>Lonicera japonica</i>	FACU-	✓
5. <i>Rumex crispus</i>	FACU	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 0 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MEDg Taxonomic Subgroup: Typic Psystrochreptic

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A0-2</u>	<u>10YR 4/4</u>	<u>-</u>	<u>-</u>
<u>B3-10</u>	<u>10YR 3/4</u>	<u>-</u>	<u>-</u>

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry, channely loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) 7 1/8
 Primary Indicators: 0 Secondary Indicators (2 or more required): 0

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | Remarks: <u>nil</u> |

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments:

2

RETTEW

ROUTINE ONSITE WETLAND DATA SHEET (6/05)

We answer to you.

Field Investigator(s) RSK, JTH Date: 5/13/08
 Project Site: Carroll Co. Airport Sample ID: S# E 8
 State: MD County: Carroll Township: Town of Westminster
 Sample Location (Descriptive): West end of site w/in Miller Prop. low lying area in woods

Check Primary Wetland Delineation Guidance Manual: 1987 Corps of Engineers Method w/1992 Guidance
 Has the Plant Community, Soils, or Hydrology Been Disturbed? Yes: No:
 Do Normal Environmental Conditions Prevail at this Sample Location? Yes: No:
 Is the area a potential problem area? Yes: No:
 Describe Disturbance/Problematic Features: _____

DOMINANT VEGETATION

PLANT SPECIES	IND. ST.	STR	PLANT SPECIES	IND. ST.	STR
1. <i>Carya tomentosa</i>	NT	T	6. <i>Parthenocissus quinquefolia</i>	FACU	✓
2. <i>Acer rubrum</i>	FAC	T	7. <i>Berberis thunbergii</i>	FACU	✓
3. <i>Quercus rubra</i>	FACW	T	8. <i>Scirpus americanus</i>	FAC	✓
4. <i>Alliaria petiolata</i>	FACW	H	9.		
5. <i>Allium vineale</i>	FACU	H	10.		

Percentage OBL, FACW, or FAC species (excluding FAC-) 25 Results of FAC-neutral Test 0

SOILS

Mapped Series/Phase: MED₂ Taxonomic Subgroup: Typic Dystriccepte

Horizon/Depth	Matrix Color (moist)	Mottle Color (moist)	Mottle Abundance/Contrast
<u>A 0-18</u>	<u>2.5 YR 4/1</u>		

- | | |
|---|--|
| <input type="checkbox"/> Mapping unit listed on a local hydric soil list? | <input type="checkbox"/> Mapping unit list on the national hydric soil list? |
| <input type="checkbox"/> Histic epipedon present? | <input type="checkbox"/> Sesquioxide Concretions? |
| <input type="checkbox"/> Sulfidic Odor? | <input type="checkbox"/> High Organic A-horizon in Sandy Soils? |
| <input type="checkbox"/> Gleyed or Low-Chroma colors? | <input type="checkbox"/> Organic Streaking/Spodic Horizon? |
| <input type="checkbox"/> Mapped Series/Phase Confirmed in Field? | <input type="checkbox"/> Aquic/paraquic moisture regime? |
| | <input type="checkbox"/> Alpha, Alpha Dipyridal Test |

Remarks: dry silt loam

HYDROLOGY

Depth of ground surface Inundation (inches) 0 Depth to Free Standing Water in soil Pit (inches) > 18
 Primary Indicators: _____ Secondary Indicators (2 or more required): _____

- | | |
|---|---|
| <input type="checkbox"/> Observed Inundation | <input type="checkbox"/> Oxidized Rhizospheres within 12 inches |
| <input type="checkbox"/> Saturated in Upper 12 inches | <input type="checkbox"/> Water-stained Leaves |
| <input type="checkbox"/> Water Marks | <input type="checkbox"/> FAC-neutral Test |
| <input type="checkbox"/> Drift Lines | <input type="checkbox"/> Hydrologic Field Data (site specific) |
| <input type="checkbox"/> Sediment Deposits | |
| <input type="checkbox"/> Wetland Drainage Pattern | |

Remarks: none

JURISDICTIONAL DETERMINATION AND RATIONALE

Hydrophytic Vegetation Present? Yes No Is this sample location within a wetland? Yes No
 Hydric Soils Present? Yes No
 Wetland Hydrology Present? Yes No Wetland Classifications: _____

Additional comments: ✓

APPENDIX B
SITE PHOTOGRAPHS



Photo 1 - Facing southeast from Pleasant Valley Road, viewing PEM/PSS portion of Wetland #1 and Sample Point #A1 at the Carroll County Regional Airport Site.



Photo 2 - Facing west, viewing PEM portion of Wetland #1.



Photo 3 - Facing east from Sample Point A4, viewing PEM/PS/FO portion of Wetland #4 and Sample Point #A4 at the Carroll County Regional Airport Site.



Photo 4 - Facing southeast from the mid-northern portion of the site, viewing a characteristic agricultural field.



Photo 5 - Facing southwest from Sample Point #C6, viewing Stream #5. This stream is identified as an unnamed tributary to Bear Branch of Big Pipe Creek.



Photo 6 - Facing northwest from north of Wetland #6, viewing Stream #1, an unnamed tributary to Bear Branch of Big Pipe Creek



Photo 7 - Facing south from Sample Point #C4, viewing a viewing a characteristic wooded area at the Carroll County Regional Airport Site.



Photo 8 - Facing southwest from the northern end of the site, viewing a portion of fringed PFO Wetland #13 and Stream #8.



Photo 9 - Facing southeast from the northern end of the site, viewing an agricultural field and proposed runway expansion corridor.



Photo10 - Facing south from the southern side of Pinch Valley Road (Sample Point #D7), viewing PEM portion of Wetland #9.



Photo11 - Facing southeast from the western property line, viewing a horse pasture on the eastern side of Indian Valley Road.



Photo 12 - Facing northwest from the northern side of Pinch Valley Road viewing a PEM portion of Wetland #9.



Photo 13 - Facing southeast near the mid-western property line, viewing a woodlot at the Carroll County Regional Airport Site.



Photo 14 - Facing east from the southern end of the runway, viewing a drainage ditch at the Carroll County Regional Airport.



Photo 15 - Facing east from the center of the southern end of the airport, viewing existing airplane hangars and a mowed grass strip between the runways at the Carroll County Regional Airport Site.



Photo 14 - Facing south from Meadow Branch Road, viewing a PEM wetland (Wetland #14).

APPENDIX C
AGENCY COORDINATION LETTERS



MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Eric Schwaab, Deputy Secretary

July 28, 2008

Jeremy Hite
RETTEW
3020 Columbia Ave.
Lancaster, PA 17603

RECEIVED

JUL 30 2008

RETTEW CONSULTING, INC.

RE: Environmental Review for Carroll County Regional Airport, Project 07-02455-002, Westminster, Carroll County, MD.

Dear Mr. Hite:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

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,

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

ER# 2008.1190

APPENDIX D

WETLAND LOCATION PLAN (see attached)

APPENDIX E
PROFESSIONAL QUALIFICATIONS

Bryan J. Kondikoff – Mr. Kondikoff has a bachelor's degree in Biology/Ecology from Millersville University. During his employment and course work, he has been trained to conduct wetland delineations in PA and is familiar with the 1987 and 1989 *Corps of Engineers Wetland Delineation Manual*. While attending Millersville, he has also been trained in various stream bioassessment protocols in the eastern U.S. region by completing research in Lancaster County, PA on the long-term effects of steam remediation on both the aquatic macroinvertebrate and fish communities. Mr. Kondikoff has also participated in several internships with The Stroud Water Research Center in Avondale, PA as an Aquatic Biologist and for the PA Department of Environmental Protection in their Water Quality/Vector Management division. He was also employed by The Stroud Water Research Center and Millersville University, both as a Research Assistant, to conduct numerous water quality assessments in PA, NY, DE, MD, and NJ.

Jonathan P. Kasitz – Mr. Kasitz has a bachelor's degree in Biology/Ecology from Millersville University. He has used the 1987 and 1989 *Corps of Engineers Wetland Delineation Manual* for numerous field delineations in PA, MD and NY. He has completed the U.S. Army Corp of Engineers' Wetland Delineation Course. He has also been trained in several different stream assessment protocols, both in the eastern U. S. as well as in the Rocky Mountain region. Mr. Kasitz participated in internships with the PA Department of Environmental Protection in their Water Quality division and with the PA Department of Military and Veteran Affairs as a Biology Tech at Fort Indiantown Gap. He has worked with various government agencies including the National Park Service at Yellowstone NP and the US Forest Service in Colorado. He has performed biological surveys for many different threatened and endangered species across the country. He also completed honors research on the effects of ponds on stream nitrate levels in Lancaster County while at Millersville.

Timothy A. Falkenstein - Mr. Falkenstein has degrees in Forestry and Environmental Resource Management from the Pennsylvania State University and a Masters Degree in Biology from Shippensburg University. He has attended numerous professional training courses including Wetland Delineation Methodology, Wetland Soils and Hydrology, Identification of grasses, sedges and rushes, and Threatened and Endangered species of New Jersey. In his 16 years of environmental consulting he has conducted numerous wetland delineations at sites throughout Pennsylvania, Ohio, Maryland, Virginia, West Virginia, Delaware, New York, and Tennessee. He regularly conducts field meetings with the USACOE, PADEP, USFWS and other agencies to secure Jurisdictional Determinations and develop appropriate permit applications. He routinely prepares and submits general and joint permit applications for clients including private developers, and municipalities and state infrastructure projects. He has conducted and participated in rare species searches for state and federally listed plants and animals, including *Clemmys muhlenbergii*. He is also certified by the US Fish and Wildlife Service to conduct Phase I Bog Turtle Habitat Assessments. His Masters thesis entitled "*Vascular Plant Communities of the Mount Cydonia Ponds in the Michaux State Forest Natural Area, Franklin County, Pennsylvania*" involved plant community classification, topographic descriptions, and soil chemical analysis of 17 temporary autumnal/vernal pools within the Michaux State Forest Natural Area.

Jeremy T. Hite – Mr. Hite has a bachelor's degree in Wildlife and Fisheries Science from the Pennsylvania State University. He is currently involved in developing a Bog Turtle (*Glyptemys muhlenbergii*) Habitat Conservation Plan in Chester County, PA and New Castle County, DE. He is a qualified bog turtle surveyor for the state of PA and has six years of experience in searching and assessing different wetland environments for bog turtles as a technician for the Penn State University and as an environmental consultant. Through his employment as Research Technician at the Penn State Cooperative Wetlands Center he has been trained in and has helped development various protocols in assessing stream, wetlands, and riparian areas across the Mid-Atlantic Region. This research also included the sampling of streams and wetlands for macroinvertebrates and other herpetofauna. Some of these projects include Bog Turtle (*Glyptemys muhlenbergii*), Wood Turtle (*Glyptemys insculpta*), Eastern Massassauga (*Sistrurus catenatus catenatus*), Stream-sided salamanders, benthic macroinvertebrates, and River Otter (*Lutra canadensis*) surveys. His responsibilities include leading field crews, field data collection, data management, filling out permits, meeting coordination, and landowner contacts.

Joel M. Esh – Mr. Esh has an Associate in Specialized Technology Degree in Computer Aided Drafting and Design from York Technical Institute and 5 years of experience at RETTEW. In the past year, he has transferred from the transportation engineering services to the natural sciences group. With transportation engineering, he has directed data collection, prepared traffic engineering analysis, and completed PENNDOT plans involving right-of-way, traffic signals and highway occupancy permits. With natural sciences, he has assisted in wetland delineations using the 1987 *Corps of Engineers Wetland Delineation Manual* in PA and NY, prepared clearance documents involving USFWS, PGC, and PAFBC, and prepared wetland location maps and restoration plans.

**Wetlands:
Jurisdictional Determination**

- Engineers
- Planners
- Surveyors
- Landscape Architects
- Environmental Consultants

November 15, 2008

Mr. Phil Cwiek
U.S. Army Corps of Engineers
Baltimore District
Maryland Section Northern – CENAB-OP-RMN
P.O. Box 1715
Baltimore, Maryland 21203-1715

RE: Carroll County Regional Airport Site
Jurisdictional Determination Request
Town of Westminster, Carroll County, MD
RETTEW Project No. 07-02455-002

Dear Mr. Cwiek:

On behalf of the Carroll County Regional Airport, and Delta Airport Consultants, Inc. (our client), we are requesting a jurisdictional determination (JD) of wetlands and streams delineated on the Carroll County Regional Airport (CCRA) Site. The airport is located in Westminster, Carroll County, MD. At this time, the airport is investigating the feasibility of expanding the airport, which will include significant earth disturbance. A Pre-Application Meeting for this project has been scheduled for December 10, 2008 to discuss the impacts to USACE and Maryland Department of the Environment (MDE)-regulated resources generated by the proposed project. Jon Kasitz and Dan Synoracki of Rettew Associates, Inc. (RETTEW) will be present at this meeting.

Please review the enclosed information prepared for the project and site. Included on the site are significant wetland areas and numerous stream channels. All but one of these streams are unnamed tributaries to Bear Branch of Big Pipe Creek. Included within the Wetland Report is the Wetland Delineation Plan, which shows the locations of all the delineated resources. RETTEW filled out the JD form with the best available information, which may need to be revised per a JD field visit. RETTEW would like to schedule the field visits as soon as possible, based upon your schedule. We're aware that this may take several months to schedule, and will most likely require 2-3 days of field review time.

Directions to the site- From the Baltimore, MD area, take I-695 North (10 mi) to I-795 North (9.7 mi) and merge onto MD-40 West. Follow MD-40 West for about 12.7 miles and take the MD-97 North Ramp and turn right onto Littlestown Pike (Md-97). Go about 0.9 miles and turn left onto Airport Drive. Travel to end at the airport parking lot. We can meet in the airport parking lot. This is the same as the meeting location for the Pre-Application Meeting on December 10th.

2 of 2

U.S. Army Corps of Engineers

November 15, 2008

RETTEW Project No. 07-02455-002

If you have any questions regarding the enclosed information, or require additional information to schedule the JD field visit, please do not hesitate to contact me at 717-371-6797 (cell) or 717-394-3721 (office). Thank you, and have a good day.

Sincerely,



Jonathan P. Kasitz

Project Biologist

Enclosures

copy: File

Colleen Angstadt- Delta Airport Consultants

H:\07\07-02455-002\NSJD\Ltr-JD-USACE 11-15-08.doc

JD INFORMATION CHECKLIST

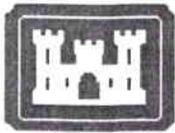


Jurisdictional Determination (JD) Information Checklist

U.S. Army Corps of Engineers
Baltimore District

This checklist is to assist applicants in submitting complete and proper information. This is not a comprehensive list, nor are all items mandatory for all projects. However, this list contains general information typically necessary for this office to confirm jurisdictional and/or wetland delineations as part of the permit application process. Please consult with the Corps Regulatory Project Manager assigned to your project to determine the appropriate information for your project.

1. **Written request** for a wetland determination and/or delineation verification. This request should include written permission from the property owner or the owner's legal representative for Corps personnel to access the property.
2. **Name, address, and phone number** of the current property owner(s), applicant (if different), and agent, if applicable. *ENCLOSURE*
3. **Completed Approved Jurisdictional Determination Form(s)**. This form is available on the Corps website at: http://www.usace.army.mil/cw/cecwo/reg/cwa_guide/app_b_approved_jd_form.pdf *ENCLOSURE*
4. **Directions** to the site from the nearest interstate highway. *COVER LETTER*
5. **Center coordinates of site** (latitude/longitude in degree decimal format). For linear projects, coordinates of each wetland and stream channel in the jurisdictional determination review area. *TABLE 2*
6. **Vicinity map** including the exact location of the proposed project. It should include the nearest intersection of two state highways, identifiable reference points, and concise directions to the site. A U.S. Geological Survey quadrangle map (at original 1:24,000 scale) and/or street atlas is preferred. *ENCLOSURE + WET REPORT*
7. **Property boundaries or jurisdictional determination review area** (if different from property boundary) including bearing and distances of property line. On linear projects, start and terminus points are required along with bearings at any major directional change. The Corps evaluator will only determine jurisdiction for the review area(s) on the property that the proponent requests. Omission of other areas on the property does not constitute a "no jurisdiction" determination for those areas. *WET REPORT*
8. **Name of nearest waterbody**. If the stream is unnamed, identify the receiving waters (e.g., unnamed tributary to Cattail Creek). *COVER LETTER, WET REPORT*
9. **Site map** showing the following information: *WET REPORT*
 - a. **Scale** appropriate for evaluation (no greater than 1"=200'; 1"=50' or 1"=100' is preferred). On large or linear projects, multiple sheets of useful scale may be submitted provided an overview map is also provided;
 - b. **Location of all "potential" waters of the U.S.** including, but not limited to, streams (perennial, intermittent, ephemeral), wetlands, ponds, watercourses, and/or drainage ditches, etc.;
 - c. **Jurisdictional boundary line** (wetland/upland) staked or flagged in the field with corresponding flag number to points on map. Wetland boundaries shall be delineated in accordance with the 1987 Corps Wetland Delineation Manual. Show sampling points and transect(s) locations. Location of the Ordinary High Water (OHW), Mean High Water (MHW), and High Tide Line (HTL) should also be shown;
 - d. **Include north arrow**, title block with date, property name, drawing number/preparer, revision dates, roads and waterway names;
 - e. **Mapping grade (Differential Global Positioning System)**. Sub-meter (< 1m) accuracy GPS will be acceptable for preliminary field work only. DGPS will be acceptable final survey method provided horizontal positional accuracy is +/- 15 cm (0.5 feet). QA/QC documentation or certification by a Professional Land Surveyor is required for DGPS submissions. Physical survey of the site shall be to current standards and specifications.



Jurisdictional Determination (JD) Information Checklist

U.S. Army Corps of Engineers
Baltimore District

10. **Wetland Determination Data Forms for both upland and wetland points** (wetland points for each unique community type) along the delineated boundary. Data forms should be complete and legible. Specify the location of the data collected, the methodology used, and the rationale for the choice of methodology (i.e., routine, comprehensive, atypical, etc.). Blank wetland determination data forms are provided at <http://www.nab.usace.army.mil/Regulatory/JD/DataForm.pdf> **WET REPORT**
11. **Reference information** from as many of the following sources as are available (NOTE: all information should have source, data, and a scale): **WET REPORT**
- a. Aerial photographs (from multiple years where available) on sites greater than 5 acres;
 - b. National Wetland Inventory (NWI) and/or State Wetland maps;
 - c. Soil surveys from the most recent soil survey effort (data available from SSURGO or other source) including series descriptions. ;
 - d. FEMA 100-year floodplain boundary, and/or local FEMA approved Flood Plain studies;
 - e. USGS Quadrangle map;
 - f. Infrared aerial photography if available;
12. **Size of waters of the U.S.** (acreage of each wetland; linear feet and width of each stream) in the jurisdictional determination review area. **ENCLOSURE (TABLE 2 & 3)**
13. **N/A** **Identify site safety** issues by checking with the Environmental Protection Agency (EPA), State (DEP in Pennsylvania or MDE in Maryland), or other local environmental protection information sources. Ensure site is free of contaminants that are considered hazardous and note any potential "Risk" areas on the site map.
- Nationwide EPA Overview: <http://www.epa.gov/reg3hwmd/>
In MD: http://www.mde.state.md.us/Programs/LandPrograms/ERRP_Brownfields/index.asp
In PA: <http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp>*
14. **Site Access Permission verification.** On large or linear projects that cross multiple property boundaries, contact the individual property owners within 48 hours of the site visit to confirm permission for site access by all parties. Signed site access permission forms (or other USACE accepted notification forms) should be brought to the site visit along with a tracking log containing the most recent efforts to contact and verify site permissions with individual property owners. USACE employees are not allowed to access a site for jurisdiction verification unless explicit permission is granted by the property owner or his designee. **ENCLOSURE**
15. **TBD** **Optional items** can be supplied that will assist in the Jurisdictional Determination review and subsequent permit evaluations:
- a. Note the general **climatological condition** of the site at the time of evaluation;
 - b. Onsite, ground level **photographs** from representative locations with photo index map identifying photograph location and direction;
 - c. **Cowardin Classification** of wetland areas.
 - d. **Current and historic land uses** (i.e., agricultural, industrial, residential, cropland, lawn, forested, etc.);
 - e. **Total acreage of wetlands** to be affected by the project (if known);
 - f. **Rate of average annual flow** in CFS for streams;
 - g. **General geologic and topographic conditions;**

JURISDICTIONAL DETERMINATION FORM

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): _____

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Baltimore District,

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Maryland County: Carroll City: Westminster
Center coordinates of site (lat/long in degree decimal format): Lat. 36.664333 N Long. 77.011583 W
Universal Transverse Mercator: Northing Easting

Name of nearest waterbody: UNT's to Bear Branch of Big Pipe Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Potomac River

Name of watershed or Hydrologic Unit Code (HUC): Monocacy 02070009

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
 Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:
 Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are **no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.
 Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are **waters of the U.S.** within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
 Wetlands adjacent to TNWs
 Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
 Non-RPWs that flow directly or indirectly into TNWs
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
 Impoundments of jurisdictional waters
 Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 14,755 linear feet: 2-5 width (ft) and/or acres.
Wetlands: 14.867 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under Rapanos have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions: For Stream #6

Watershed size: 21.56 acres

Drainage area: 21.56 acres

Average annual rainfall: 43.67 (Carroll County from 1971-2000) inches

Average annual snowfall: 32.10 (Westminster) inches

(ii) Physical Characteristics:

(a) Relationship with TNW: Stream #6 contributes to the Potomac River after passing thru several other streams

Tributary flows directly into TNW.

Tributary flows through 5 tributaries before entering TNW.

Project waters are 10 (or more) river miles from TNW. *See Table 3*

Project waters are _____ river miles from RPW.

Project waters are 10 (or more) aerial (straight) miles from TNW.

Project waters are _____ aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵ UNT to Bear Branch Big Pipe Creek (Str #6), UNT to Bear Branch Big Pipe Creek (Str #5), Bear Branch Big Pipe Creek (Str #1), Big Pipe Creek, Double Pipe Creek, Monocacy River, Potomac River

Tributary stream order, if known: 1st order

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 2-4 feet
Average depth: 0.2- 0.6 feet
Average side slopes: 3:1

Primary tributary substrate composition (check all that apply):

<input type="checkbox"/> Silts	<input type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input checked="" type="checkbox"/> Cobbles	<input checked="" type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation.	Type
<input type="checkbox"/> Other. Explain:		% cover:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Limited eroding banks in some areas

Presence of run/riffle/pool complexes. Explain: Small, first order stream, limited pools

Tributary geometry:relatively straight

Tributary gradient (approximate average slope): 4.3%

(c) Flow:

Tributary provides for: seasonal flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime:

Other information on duration and volume:Stream flowing during all site visits (May, June, July & Nov)

Surface flow is: **Confined** Characteristics:

Subsurface flow: **Unknown** Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

<input checked="" type="checkbox"/> Bed and banks		
<input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply):		
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input checked="" type="checkbox"/> the presence of litter and debris	
<input type="checkbox"/> changes in the character of soil	<input type="checkbox"/> destruction of terrestrial vegetation	
<input type="checkbox"/> shelving	<input type="checkbox"/> the presence of wrack line	
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> sediment sorting	
<input type="checkbox"/> leaf litter disturbed or washed away	<input checked="" type="checkbox"/> scour	
<input checked="" type="checkbox"/> sediment deposition	<input type="checkbox"/> multiple observed or predicted flow events	
<input type="checkbox"/> water staining	<input type="checkbox"/> abrupt change in plant community	
<input type="checkbox"/> other (list):		
<input type="checkbox"/> Discontinuous OHWM. ⁷ Explain:		

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input type="checkbox"/> High Tide Line indicated by:	<input type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:Generally clear

Identify specific pollutants, if known:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): Successional woods along most of corridor, ranging from 0 ft to 200 ft or more
- Wetland fringe. Characteristics: PEM/SS wetland fringe near head of stream
- Habitat for:
- Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) **Physical Characteristics:** *Wetland #1*

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.212 acres

Wetland type. Explain: PEM

Wetland quality. Explain: wetland forms from runoff from adjacent airport runway, possible high water table area which was disturbed during the runway construction

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral Flow** Explain: overland connection to Wetland #10/Stream #6 during storm events

Surface flow is: **Overland Sheetflow**

Characteristics: sheetflows thru upland mowed field

Subsurface flow: **Unknown** Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: obvious overland sheetflow connection between Wetland #11 and Stream #6 (RPW)

Ecological connection. Explain: sheetflow from Wetland #11 contributes to hydrology of Wetland #10 (at the head of Stream #6) during storm events

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 10 (or more) river miles from TNW.

Project waters are 10 (or more) aerial (straight) miles from TNW.

Flow is from: **Wetlands to navigable waters**

Estimate approximate location of wetland as within the **500 year or greater** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: water color is generally clear when present

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: surrounded by mowed grass fields maintained by airport staff

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **1**

Approximately (0.212) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following: *See Table 2*

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

- 1. TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
- 2. RPWs that flow directly or indirectly into TNWs.**
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: The RPW's noted on Table 3 all were observed to have flowing water during the spring and summer of 2008 during on-site investigations for bog turtle and wetland delineation studies.
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: 14,755 linear feet 2-5 width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: 14.87 acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: 14.87 acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.⁹**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain:
 Other factors. Explain:

Identify water body and summarize rationale supporting determination:

⁸ See Footnote # 3.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 in Wetland Report, New Windsor and Westminster quads
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name: New Windsor and Westminster quads
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
 - or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

TABLES 2 & 3 (WETLAND AND STREAM INFORMATION)

Carroll County Regional Airport Site
Table 2- Wetland Characteristics

Wetland	Coordinates (Center)	Wetland Size (ac)	Wetland Type	Connection to RPW/TNW
Site	N- 36.664333 W- 77.011583	N/A	N/A	N/A
Wetland #1	N- 36.617006 W- 77.004978	5.052	PEM/SS/FO	Abuts a RPW (Stream #1)
Wetland #2	N- 36.615503 W- 77.005056	0.049	PEM	Abuts a RPW (Stream #4)
Wetland #3	N- 36.61485 W- 77.003367	0.217	PEM/SS	Abuts a RPW (Stream #4)
Wetland #4	N- 36.613806 W- 77.000483	1.749	PEM/SS/FO	Abuts a RPW (Stream #4)
Wetland #5	N- 36.613306 W- 77.004186	0.452	PEM/SS/FO	Abuts a RPW (Stream #1)
Wetland #6	N- 36.611983 W- 77.002289	0.293	PEM/SS	Abuts a RPW (Stream #1)
Wetland #7	N- 36.614403 W- 77.007808	0.874	PEM/SS/FO	Abuts a RPW (Stream #3)
Wetland #8	N- 36.621194 W- 77.011894	0.883	PEM/SS/FO	Abuts a RPW (Stream #5)
Wetland #9	N- 36.617261 W- 77.014989	4.283	PEM/SS/FO	Abuts a RPW (Streams #5 and #7)
Wetland #10	N- 36.616481 W- 77.012594	0.342	PEM/SS/FO	Abuts a RPW (Stream #6)
Wetland #11	N- 36.614975 W- 77.010978	0.212	PEM	Adjacent a RPW (Stream #6)
Wetland #12	N- 36.614994 W- 77.018372	0.105	PEM/FO	Abuts a RPW (Stream #5)
Wetland #13	N- 36.622364 W- 77.019464	0.301	PFO	Abuts a RPW (Stream #6)
Wetland #14	N- 36.600514 W- 77.004972	0.055	PEM	Abuts a RPW off-site (UNT to Meadow Branch of Big Pipe Creek)

Carroll County Regional Airport Site

Table 3- Stream Characteristics

Stream	Coordinates (Start)	Coordinates (End)	Stream order	Stream type	Watershed size (acres)	Drainage area size (acres)	River miles to a TNW	Aerial miles to a TNW	Stream length (ft) (on-site)
Stream #1 (Bear Branch of Big Pipe Creek)	N- 39.611747 W- 77.002489	N- 39.631486 W- 77.141847	2nd (becomes 3rd off-site)	perennial RPW	9176.7	199.67	64.28	36.26	2,540
Stream #2 (UNT to Bear Branch of Big Pipe Creek)	N- 39.618694 W- 76.99945	N- 39.616544 W- 77.005597	1st	perennial RPW	89.13	13.92	64.04	36.5	774
Stream #3 (UNT to Bear Branch of Big Pipe Creek)	N- 39.616647 W- 77.005775	N- 39.613542 W- 77.009331	1st	seasonal RPW	49.47	49.47	64.14	36.18	1,135
Stream #4 (UNT to Bear Branch of Big Pipe Creek)	N- 39.6128 W- 77.000425	N- 39.615886 W- 77.005419	1st	perennial RPW	42.55	23.88	64.2	36.41	1,482
Stream #5 (UNT to Bear Branch of Big Pipe Creek)	N- 39.610642 W- 77.021325	N- 39.621686 W- 77.011686	2nd	perennial RPW	139.7	88.99	64.02	35.85	3,302
Stream #6 (UNT to Bear Branch of Big Pipe Creek)	N- 39.6162 W- 77.012572	N- 39.617614 W- 77.01515	1st	perennial RPW	21.56	21.56	63.87	36.12	998
Stream #7 (UNT to Bear Branch of Big Pipe Creek)	N- 39.613333 W- 77.016261	N- 39.616267 W- 77.016172	1st	perennial RPW	46.35	32.73	64.06	35.86	1,170
Stream #8 (UNT to Bear Branch of Big Pipe Creek)	N- 39.618303 W- 77.021106	N- 39.62655 W- 77.015636	1st	perennial RPW	108.38	94.11	63.67	35.95	3,354
Offsite drainage from Wetland #14 (UNT to Meadow Branch of Big Pipe Creek)	N- 39.5996 W- 77.005819	N- 39.591972 W- 77.024164	1st	seasonal RPW	9508.46	43.56	63.49	35.59	0

JOINT PERMIT APPLICATION

Carroll County Regional Airport (DMW) Expansion

City of Westminster, Carroll County, Maryland



Submitted to:

Maryland Department of the Environmental
US Army Corps of Engineers – Baltimore District

Applicant:

Carroll County
Attn: Joseph McKelvey, Airport Manager
200 Airport Drive
Westminster, MD 21157

Prepared by:

RETTEWSM

RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, Pennsylvania 17603

RETTEW Project Number: 044192019

October, 2016

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I. JOINT PERMIT APPLICATION FORM

DRAFT

*******IMPORTANT ANNOUNCEMENT*******

**New State Procedures for Application Processing
Wetlands and Waterways Program
Water Management Administration
Maryland Department of the Environment**

Effective **August 1, 2011**, the Maryland Department of the Environment (MDE) will implement new procedures for application review and communication with applicants designed to improve and expedite permit application processing. These procedures are intended to clarify the steps in the review process, promptly communicate the need for specific additional information and add certainty to the permit process by adhering to published permit turn-around times. MDE's ability to meet these new turn-around times for permit decisions depends on the submission of a carefully prepared application and the provision of any additional information determined by MDE to be necessary to complete an application review and render a decision. Providing additional information when requested is critical to the success of MDE in rendering a timely permit decision.

What is the Current Procedure?

All applicants for a wetlands and waterways authorization currently receive a "45-day letter" notifying the applicant that the activity is either authorized to proceed, or that the additional information described in the letter is needed to complete the application and enable MDE to render a decision. Past practice has been to allow the applicant an indefinite period of time to provide this information, resulting in thousands of pending applications upon which MDE could take no action.

What is Changing as of August 1, 2011?

The new process provides only one opportunity for an applicant to supplement an application with additional information. This change in procedure, which is applicable to all applications received on or after August 1, 2011, places a deadline by which the additional information requested in the "45-day letter" must be provided to MDE. Since each "45-day letter" will include a deadline for the submission of requested information, it is important to maintain a dialogue with the project manager assigned to your project prior to responding.

What Happens If Applicants Do Not Provide Sufficient Information or MDE Fails to Meet Deadlines?

If an applicant fails to provide the additional requested information or if the information provided within the requested time frame is insufficient, MDE will deny the permit application due to insufficient information upon which to make a favorable decision. The applicant may re-apply as allowed under State law. Resubmission of a permit application is considered a new application and fees will be due and payable upon resubmission of the application. As is currently done, if the Department fails to request additional information in the 45-day letter, the application is considered complete and the review will continue.

Note: If an application meets certain criteria for requiring additional time for review, such as a scientific study requested by MDE, resolution of legal or local governmental matters or other factors beyond the control of the applicant or the Department, this new procedure will not apply. The applicant will be notified if the application meets these criteria in the 45-day letter.

How Can an Applicant Ensure an Expedited Review Process?

Applicants are advised to obtain information and guidance by calling 410-537-3745 or 800-633-6101. Another option is to schedule a pre-application meeting by filling out the Pre-Application Meeting Request Form available at the following email address:

<http://mde.maryland.gov/programs/Water/WetlandsandWaterways/Documents/preAppMeetingRequest.pdf>

In addition to providing the information requested in the application, be sure to include all of the information discussed during the telephone call or at the pre-application meeting. It is advisable to delay submitting an application until all of the required information can be provided. Additional information is available on the program's website:

http://mde.maryland.gov/programs/Water/WetlandsandWaterways/Pages/Programs/WaterPrograms/wetlands_waterways/index.aspx

JOINT FEDERAL/STATE APPLICATION FOR THE ALTERATION OF ANY FLOODPLAIN, WATERWAY, TIDAL OR NONTIDAL WETLAND IN MARYLAND

FOR AGENCY USE ONLY

Application Number _____ Date Determined Complete _____
Date Received by State _____ Date(s) Returned _____
Date Received by Corps _____
Type of State permit needed _____ Date of Field Review _____
Type of Corps permit needed _____ Agency Performed Field Review _____

+++++

- Please submit 1 original and 6 copies of this form, required maps and plans to the Wetlands and Waterways Program as noted on the last page of this form.
- Any application which is not completed in full or is accompanied by poor quality drawings may be considered incomplete and result in a time delay to the applicant.

Please check one of the following:

RESUBMITTAL: _____ APPLICATION AMENDMENT: _____ MODIFICATION TO AN EXISTING PERMIT: _____
JURISDICTIONAL DETERMINATION ONLY _____ APPLYING FOR AUTHORIZATION X
PREVIOUSLY ASSIGNED NUMBER (RESUBMITTALS AND AMENDMENTS) _____
DATE _____

1. APPLICANT INFORMATION:

APPLICANT NAME:

A. Name: Joseph McKelvey, Carroll County Airport Manager B. Daytime Telephone: (410) 876-9885
C. Company: Carroll County D. Email Address: _____
E. Address: 200 Airport Drive
F. City: Westminster State: MD Zip: 21157

AGENT/ENGINEER INFORMATION:

A. Name: Mary Ashburn Pearson, AICP B. Daytime Telephone: (804) 955-4556
C. Company: Delta Airport Consultants, Inc. D. Email Address: mapearson@deltairport.com
E. Address: 9711 Farrar Court, Suite 1
F. City: Richmond State: VA Zip: 23236

ENVIRONMENTAL CONSULTANT:

A. Name: Thomas J. Stich B. Daytime Telephone: (717) 394-3721
C. Company: RETTEW Associates, Inc. D. Email Address: tstich@rettew.com
E. Address: 3020 Columbia Ave
F. City: Lancaster State: PA Zip: 17603

CONTRACTOR (If known): _____

A. Name: _____ B. Daytime Telephone: _____
C. Company: _____ D. Email Address: _____
E. Address: _____
F. City: _____ State: _____ Zip: _____

PRINCIPAL CONTACT:

A. Name: _____ B. Daytime Telephone: _____
C. Company: _____ D. Email Address: _____
E. Address: _____
F. City: _____ State: _____ Zip: _____

2. PROJECT DESCRIPTION

a. GIVE WRITTEN DESCRIPTION OF PROJECT:

The proposed project involves the expansion of the Carroll County Regional Airport, including extension of an existing runway/taxi way and supporting infrastructure.

Has any portion of the project been completed? Yes No If yes, explain _____

Is this a residential subdivision or commercial development? Yes No
 If yes, total number of acres on property _____ acres

b. ACTIVITY: Check all activities that are proposed in the wetland, waterway, floodplain, and nontidal wetland buffer as appropriate.

- A. filling
- B. dredging
- C. excavating
- D. flooding or impounding water
- E. draining
- F. grading
- G. removing or destroying vegetation
- H. building structures

Area for item(s) checked: Wetland 181,645.2 (sq. ft.) Buffer (Nontidal Wetland Only) _____ (sq. ft.)

Expanded Buffer (Nontidal Wetland Only) _____ (sq. ft.)

Area of stream impact _____ (sq. ft.)

Length of stream affected 3,660 (linear feet)

c. TYPE OF PROJECTS: Project Dimensions

For each activity, give overall length and width (in feet), in columns 1 and 2. For multiple activities, give total area of disturbance in square feet in column 3. For activities in tidal waters, give maximum distance channelward (in feet) in column 4. For dam or small ponds, give average depth (in feet) for the completed project in column 5. Give the volume of fill or dredged material in column 6.

	Length (Ft.) 1	Width (Ft.) 2	Area Sq. Ft. 3	Maximum/Average Channelward Encroachment 4	Pond Depth 5	Volume of fill/dredge material (cubic yards) below MHW or OHW 6
A. <input type="checkbox"/> Bulkhead	_____	_____	_____	_____	_____	_____
B. <input type="checkbox"/> Revetment	_____	_____	_____	_____	_____	_____
C. <input type="checkbox"/> Vegetative Stabilization	_____	_____	_____	_____	_____	_____
D. <input type="checkbox"/> Gabions	_____	_____	_____	_____	_____	_____
E. <input type="checkbox"/> Groins	_____	_____	_____	_____	_____	_____
F. <input type="checkbox"/> Jetties	_____	_____	_____	_____	_____	_____
G. <input type="checkbox"/> Boat Ramp	_____	_____	_____	_____	_____	_____
H. <input type="checkbox"/> Pier	_____	_____	_____	_____	_____	_____
I. <input type="checkbox"/> Breakwater	_____	_____	_____	_____	_____	_____
J. <input type="checkbox"/> Repair & Maintenance	_____	_____	_____	_____	_____	_____
K. <input type="checkbox"/> Road Crossing	_____	_____	_____	_____	_____	_____
L. <input type="checkbox"/> Utility Line	_____	_____	_____	_____	_____	_____
M. <input type="checkbox"/> Outfall Construction	_____	_____	_____	_____	_____	_____
N. <input type="checkbox"/> Small Pond	_____	_____	_____	_____	_____	_____
O. <input type="checkbox"/> Dam	_____	_____	_____	_____	_____	_____
P. <input type="checkbox"/> Lot Fill	_____	_____	_____	_____	_____	_____
Q. <input type="checkbox"/> Building Structures	_____	_____	_____	_____	_____	_____
R. <input checked="" type="checkbox"/> Culvert	_____	_____	_____	_____	_____	_____
S. <input type="checkbox"/> Bridge	_____	_____	_____	_____	_____	_____
T. <input checked="" type="checkbox"/> Stream Channelization	_____	_____	_____	_____	_____	_____
U. <input type="checkbox"/> Parking Area	_____	_____	_____	_____	_____	_____
V. <input type="checkbox"/> Dredging	_____	_____	_____	_____	_____	_____

1. New 2. Maintenance 3. Hydraulic 4. Mechanical
 W. Other (explain) Wetland fill resulting in 4.17 acres of wetland impacts

d. PROJECT PURPOSE: Give brief written description of the project purpose:

The purpose of the proposed project is to accommodate the general aviation aircraft utilizing the airport today and in the future, and to continue to improve the airport's ability to serve the community. The proposed action will improve the airport's ability as a reliever airport to Baltimore-Washington International (BWI) Airport.

3. PROJECT LOCATION:

a. LOCATION INFORMATION:

A. County: Carroll B. City: Westminster C. Name of waterway or closest waterway: Bear & Meadow Branches of Big Pipe Creek
D. State stream use class designation: _____
E. Site Address or Location: 200 Airport Drive, Westminster, MD 21157

F. Directions from nearest intersection of two state roads: From the intersection of SR 97 and SR 140 on the north end of Westminster, head north on SR 97 for approximately 1.2 miles. Turn left on Airport Drive. The airport hangar and offices are located at the end of Airport Drive.

G. Is your project located in the Chesapeake Bay Critical Area (generally within 1,000 feet of tidal waters or tidal wetlands)?:
Yes X No

H. County Book Map Coordinates (Alexandria Drafting Co.); Excluding Garrett and Somerset Counties:
Map: 12 Letter: F Number: 12.0 (to the nearest tenth)

I. FEMA Floodplain Map Panel Number (if known): 2400-15-0100B
and adjacent panels

J. 1. 39.612766 latitude 2. -77.013517 longitude

b. ACTIVITY LOCATION: Check one or more of the following as appropriate for the type of wetland/waterway where you are proposing an activity:

A. Tidal Waters F. 100-foot buffer (nontidal wetland of special State concern) H. X 100-year floodplain (outside stream channel)
B. Tidal Wetlands
C. Special Aquatic Site (e.g., mudflat, vegetated shallows) G. X In stream channel I. River, lake, pond
1. Tidal 2. X Nontidal J. Other (Explain)
D. X Nontidal Wetland
E. X 25-foot buffer (nontidal wetlands only)

c. LAND USE:

A. Current Use of Parcel Is: 1. X Agriculture: Has SCS designated project site as a prior converted cropland? Yes X No 2. X Wooded 3. Marsh/Swamp 4. X Developed
5. X Other Scattered residential parcels

B. Present Zoning Is: 1. X Residential 2. X Commercial/Industrial 3. X Agriculture 4. Marina 5. Other

C. Project complies with current zoning Yes No

THE FOLLOWING INFORMATION IS REQUIRED BY THE STATE (blocks 4-7):

4. REDUCTION OF IMPACTS: Explain measures taken or considered to avoid or minimize wetland losses in F. Also check Items A-E if any of these apply to your project.

A. Reduced the area of disturbance B. Reduced size/scope of project C. Relocated structures
D. Redesigned project

E. Other Identification of additional wetlands on surrounding County property parcels to avoid future wetland impacts.

F. Explanation _____

Describe reasons why impacts were not avoided or reduced in Q. Also check Items G-P that apply to your project.

- | | | |
|---|--|--|
| G. <input checked="" type="checkbox"/> Cost | K. _____ Parcel size | N. <input checked="" type="checkbox"/> Safety/public welfare issue |
| H. _____ Extensive wetlands on site | L. <input checked="" type="checkbox"/> Other regulatory requirement | O. _____ Inadequate zoning |
| I. _____ Engineering/design constraints | M. <input checked="" type="checkbox"/> Failure to accomplish project purpose | P. _____ Other _____ |
| J. _____ Other natural features | | |

Q. Description Because of the existing directional alignment of Runway 16-34 and the only available land to expand the runway is situated on the northwest end of Runway 16, there is no other way to meet FAA regulatory requirements and avoid wetland and stream impacts. Such avoidance would cause the failure of accomplishing the project's purpose and in meeting FAA requirements. In addition, during the process of project design, the selected alternative for the proposed activity was revised to reduce wetland impacts by reducing the length of the proposed runway by 900 feet.

5. LETTER OF EXEMPTION: If you are applying for a letter of exemption for activities in nontidal wetlands and/or their buffers, explain why the project qualifies:

- | | |
|--|---|
| A. _____ No significant plant or wildlife value and wetland impact | B. _____ Repair existing structure/fill |
| 1. _____ Less than 5,000 square feet | C. _____ Mitigation Project |
| 2. _____ In an isolated nontidal wetland less than 1 acre in size | D. _____ Utility Line |
| E. Other (explain) _____ | 1. _____ Overhead |
| | 2. _____ Underground |

F. Check here if you are **not** applying for a letter of exemption.

IF YOU ARE APPLYING FOR A LETTER OF EXEMPTION, PROCEED TO BLOCK 11

6. ALTERNATIVE SITE ANALYSIS: Explain why other sites that were considered for this project were rejected in M. Also check any items in D-L if they apply to your project. **(If you are applying for a letter of exemption, do not complete this block):**

- | | | |
|---|--|--------------------------|
| A. _____ 1 site | B. <input checked="" type="checkbox"/> 2 - 4 sites | C. _____ 5 or more sites |
| Alternative sites were rejected/not considered for the following reason(s): | | |
| D. <input checked="" type="checkbox"/> Cost | H. <input checked="" type="checkbox"/> Greater wetlands impact | L. _____ Other _____ |
| E. <input checked="" type="checkbox"/> Lack of availability | I. _____ Water dependency | |
| F. <input checked="" type="checkbox"/> Failure to meet project purpose | J. _____ Inadequate zoning | |
| G. _____ Located outside general/market area | K. _____ Engineering/design constraints | |

M. Explanation: Because of the airport's current location and alignment, there was only one site to work with. Three other alternatives were considered for the project site itself. However, this was the only alternative that met the project's purpose and FAA regulations. Trying to move the airport to another location would most likely result in more overall impacts to the environment.

7. PUBLIC NEED: Describe the public need or benefits that the project will provide in F. Also check Items in A-E that apply to your project. **(If you are applying for a letter of exemption, do not complete this block):**

- | | | |
|---|---|----------------------|
| A. <input checked="" type="checkbox"/> Economic | C. _____ Health/welfare | E. _____ Other _____ |
| B. <input checked="" type="checkbox"/> Safety | D. _____ Does not provide public benefits | |
| F. Description _____ | | |

8. OTHER APPROVALS NEEDED/GRANTED:

A. Agency	B. Date Sought	C. Decision		D. Decision Date	E. Other Status
		1. Granted	2. Denied		
USFWS					

9. MITIGATION PLAN: Please provide the following information:

a. Description of a monetary compensation proposal, if applicable (for **state requirements** only). Attach another sheet if necessary. N/A

b. Give a brief description of the proposed mitigation project. TBD (The project team is working with the County to identify suitable mitigation sites on County-owned land. These projects will include wetland mitigation and stream mitigation.)

c. Describe why you selected your proposed mitigation site, including what other areas were considered and why they were rejected. TBD

d. Describe how the mitigation site will be protected in the future. Conservation easements.

10. HAVE ADJACENT PROPERTY OWNERS BEEN NOTIFIED?: A. Yes B. No
 Provide names and mailing addresses below (Use separate sheet, if necessary):

a. <u>See attached list</u>	b. _____	c. _____
_____	_____	_____
_____	_____	_____
_____	_____	_____

11. HISTORIC PROPERTIES: Is your project located in the vicinity of historic properties? (For example: structures over 50 years old, archeological sites, shell mounds, Indian or Colonial artifacts). Provide any supplemental information in Section 13.

A. Yes B. No C. Unknown

12. ADDITIONAL INFORMATION: Use this space for detailed responses to any of the previous items. Attach another sheet if necessary:
Regarding 11. Historic Properties, a Project Review Form was submitted to the Maryland SHPO on 2/8/16; the response from MDSHPO indicates the project will have no effect on historic properties.

Check box if data is enclosed for any one or more of the following (see checklist for required information):

- | | | |
|--|--|---|
| A. <input checked="" type="checkbox"/> Soil borings | D. <input checked="" type="checkbox"/> Field surveys | G. <input checked="" type="checkbox"/> Site plan |
| B. <input checked="" type="checkbox"/> Wetland data sheets | E. <input checked="" type="checkbox"/> Alternate site analysis | H. <input checked="" type="checkbox"/> Avoidance and
minimization analysis |
| C. <input checked="" type="checkbox"/> Photographs | F. <input type="checkbox"/> Market analysis | |
- I. Other (explain) _____
-
-

CERTIFICATION:

I hereby designate and authorize the agent named above to act on my behalf in the processing of this application and to furnish any information that is requested. I certify that the information on this form and on the attached plans and specifications is true and accurate to the best of my knowledge and belief. I understand that any of the agencies involved in authorizing the proposed works may request information in addition to that set forth herein as may be deemed appropriate in considering this proposal. I certify that all Waters of the United States have been identified and delineated on site, and that all jurisdictional wetlands have been delineated in accordance with the Corps of Engineers Wetlands Delineation Manual (Wetlands Research Program Technical Report Y-87-1). I grant permission to the agencies responsible for authorization of this work, or their duly authorized representative, to enter the project site for inspection purposes during working hours. I will abide by the conditions of the permit or license if issued and will not begin work without the appropriate authorization. I also certify that the proposed works are consistent with Maryland's Coastal Zone Management Plan. I understand that none of the information contained in the application form is confidential and that I may request that additional required information be considered confidential under applicable laws. I further understand that failure of the landowner to sign the application will result in the application being deemed incomplete.

LANDOWNER MUST SIGN: _____ DATE: _____

WHERE TO MAIL APPLICATION

Maryland Department of the Environment
Water Management Administration
Regulatory Services Coordination Office
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230
Telephone: (410) 537-3762
1-800-876-0200

BEFORE YOU MAIL... DON'T FORGET...

- **SIGN AND DATE THE APPLICATION. THE LANDOWNER MUST SIGN.**
- **SEVEN (7) COPIES OF ALL DOCUMENTS (APPLICATION, PLANS, MAPS, REPORTS, ETC.) MUST BE RECEIVED TO BEGIN OUR REVIEW.**
- **INCLUDE FIVE COPIES OF A VICINITY MAP (LOCATION MAP) WITH THE PROJECT SITE PINPOINTED.**
- **SEND AN APPLICATION FEE OF \$750 ALONG WITH A COPY OF THE FIRST PAGE OF THE APPLICATION TO MARYLAND DEPARTMENT OF THE ENVIRONMENT, P.O. BOX 2057, BALTIMORE, MD 21203-2057. PLEASE REFER TO OUR WEBSITE <http://www.mde.state.md.us/wetlands> FOR FURTHER INSTRUCTIONS.**

**SAMPLE PLANS MAY BE OBTAINED BY PHONE (1-800-876-0200)
OR E-MAIL acunabaugh@mde.state.md.us.**

SUPPLEMENTARY INFORMATION TO BE INCLUDED ON PLANS, DRAWINGS, OR VICINITY MAPS

In addition to the information indicated on the previous pages, you should include the following on the 8 1/2 x 11 site plans and any blueprints you have submitted:

1. Delineation of any wetland buffers or expanded buffers, clearly marked and differentiated.
2. Location of mitigation area, if proposed on the same site as the project.

Note: If you are proposing a complex project you may wish to submit engineering blueprints of your project with the application form to expedite review.

Mitigation Location Map: If you are proposing that nontidal wetland mitigation be done at a different location than the proposed project, you should submit a map showing the location of the mitigation site in relation to the proposed nontidal wetland losses.

WETLAND DELINEATION

Wetlands should be identified according to methods described in the publication Corps of Engineers Wetlands Delineation Manual (Wetlands Research Program Technical Report Y-87-1). Copies of the manual may be obtained by calling the U. S. Government Printing Office at 202-783-3238 and requesting document #024-010-00-683-8 at a cost of \$7.50. Wetlands must be shown on all plans submitted with the application. All wetlands on site must be delineated and shown on the overall site plan. 8½ x 11 inch plans with topography showing relation of the wetlands and project impacts must be submitted. Copies of the wetland reports and data sheets used in making the determination be included with your application submittal.

Regulatory Agencies

Federal Permits

U.S. Army Corps of Engineers
Baltimore District
Attention: CENAB-OP-R
P. O. Box 1715
Baltimore, MD 21203-1715
Telephone: (410) 962-3670

Coastal Zone Consistency Statement

MD Dept. of the Environment
Water Management Administration
Wetlands and Waterways Program
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3745

State Authorizations

MD Dept. of the Environment
Water Management Administration
Tidal Wetlands Division
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3837

MD Dept. of the Environment
Water Management Administration
Nontidal Wetlands and Waterways
Division
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3768

Wetlands and Waterways Program: Checklist for Floodplain, Waterway, Tidal or Nontidal Wetland Applications

- Processing Fee Enclosed
- Exempt from Processing Fee

- Applicant's name, mailing address, telephone number, email address and fax number
- Authorized agent's (or primary contact and other contact) names, mailing addresses, telephone numbers, email addresses and fax numbers
- Any existing authorization numbers or previously assigned numbers
- General description of project purpose and proposed activity.
- The name of the city or town, waterbody, and county where the project is located
- Clear directions to project site
- Latitude and longitude from a central location within the project limits

Wetland, Waterway/Stream, Buffer, Floodplain Description

- Itemized calculation of all permanent and temporary wetland, stream, buffer, floodplain impacts
- A delineation report of the area of all wetlands and buffers on the site and associated wetland data sheets. The report map should include the location of all streams, 100-year floodplains?, open water and other surface waters on the site the limits of Chesapeake Bay Resource Protection Areas (RPAs), Wetland types should be noted according to their Cowardin (USFWS-National Wetlands Inventory) classification or similar terminology.
- Description of How Impacts were Avoided or Reduced
- Mitigation Proposal, if applicable

Plans

- A detailed vicinity map of the project area, including the project boundary. The map should identify the project site, property boundaries, and adjacent property owners
- Plans showing distance of all proposed structures to all contiguous property lines and any appropriate County or State property line building restriction setbacks, right-of-ways and/or easements
- A plan view depicting existing and proposed conditions and structures. All plan view sketches should include, but are not limited to: north arrow; existing and proposed contours and/or grades; limit of surface water areas; ebb and flow direction of all water bodies (e.g., streams, tidal waters); applicant name and address; all horizontal dimensions of all proposed structures and impacts,