

**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: CENAB-OP-RMS (NAVAL SUPPORT FACILITY CARDEROCK/JD) 2013-02030-M32**

**PROJECT LOCATION AND BACKGROUND INFORMATION: Reaches: 15 streams and 10 non-tidal wetlands on an approximately 186.8-acre property referred to as the Naval Support Facility (NSF) - Carderock.**

State: **Maryland** County/parish/borough: **Montgomery** City: **Bethesda**

Center coordinates of site (lat/long in degree decimal format): Lat. **N 38°58'27.70"** Long. **W 77°11'22.50"**

Name of nearest waterbody: **the C&O Canal / Potomac River**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **the C&O Canal / Potomac River**

**The site is located south of MacArthur Boulevard, north of Clara Barton Parkway and the C&O Canal, and west of I-495, in Bethesda, Montgomery County, Maryland. The southern and western portions of the site drain south off the property to the C&O Canal, a historic traditional navigable waterway (TNW), which then drains to the Potomac River, a tidal, navigable, interstate tributary of the Chesapeake Bay, a TNW. The eastern portion of the site drains east off the property to Rock Run, a lower perennial stream, which then drains to the Potomac River, a tidal, navigable, interstate tributary of the Chesapeake Bay, a traditional navigable waterway.**

Name of watershed or Hydrologic Unit Code (HUC): **Potomac River - 02070010**

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: **01 May 2014**

Field Determination. Date(s): **12 November 2013**

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There are not "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 and are not "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):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (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: The project site consists of 10 nontidal wetlands and 15 nontidal streams. Total area of waters is approximately 7,797 linear feet of jurisdictional waters, 4.66 acres of wetlands.**

**The project impact area is indicated below.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

- c. Limits (boundaries) of jurisdiction based on: **the Eastern Mountain and Piedmont Regional Supplement to the Corps Wetland Delineation Manual**  
Elevation of established OHWM (if known):.

2. **Non-regulated waters/wetlands (check if applicable):**<sup>3</sup>

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined not to be jurisdictional. Explain: **During the 12 November 2013 Corps site visit, the circumference of the isolated wetland W-10 was walked and no culvert or other drainage was visible connecting W-10 with nearby tributaries. W-10, a 1,248 square-foot isolated wetland is located approximately 320 feet from the nearest stream, but is separated from the stream by a paved road and separated from the nearest wetland (W-8) by a high spot in the topography. The wetland was likely formed by direct precipitation and runoff from the adjacent road water inputs trapped in a low spot along the road. The areas immediately adjacent to this isolated wetland are upland and there is no culvert connecting the wetland with any waters of the United States at this location or any other field evidence of connection to a stream; therefore, based on US vs James Wilson 4<sup>th</sup> circuit case/CFR 328.3 (a)(3), the Baltimore District does not regulate this isolated wetland.**

### **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 waterbody<sup>4</sup> 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:**

Watershed size: **120.1 square miles (Tuscarora – Potomac River: 10 digit HUC 020700804)**

Drainage area: **unknown**

<sup>3</sup> Supporting documentation is presented in Section III.F.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Normal average monthly rainfall for November: **approximately 3 inches per month**<sup>5</sup>

Departure from normal average monthly rainfall for November 2013: **0.5 inches less than average in the general vicinity of the project area**

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through ~ **1** tributaries before entering TNW (**several first order streams on site flow into second order streams that flow directly into the C&O, a historical TNW, or into Rock Run, a perennial RPW that flows directly into the Potomac River, a TNW**).

Project waters are approximately **less than 1** river miles from TNW.

Project waters are approximately **less than 1** river miles from RPW.

Project waters are approximately **less than 1** aerial (straight) miles from TNW.

Project waters are approximately **less than 1** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: **N/A**.

Identify flow route to TNW<sup>6</sup>: **Project waters into the C&O Canal, a historical TNW that flows directly to the Potomac River, a TNW, or into Rock Run, a perennial RPW that flows directly into the Potomac River, a TNW.**

Tributary stream order, if known: **1<sup>st</sup> order (S1, S3, S5, S7, S8, S9, S10, S11, S12, S13, S14, S15, S18), 2<sup>nd</sup> order (S1, S6, S13, S15)**

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural: **S1, S3, S5, S6, S8, S9, S15, S16, S17, and S18**

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: **S12, S13, S15, S16, S17, and S18 were all identified by the applicant as drainage ditches, likely constructed as manipulations of pre-existing stream channels**

**Tributary** properties with respect to top of bank (estimate):

Average width: **2 - 4 feet**

Average depth: **2 feet**

Average side slopes: **0.5: 1**

Primary tributary substrate composition (check all that apply):

Silts (**S7, S8, S9, S10, S11, S12, S13**)  Sands

Concrete  Cobbles

Gravel (**S1, S3, S5, S6, S15, S16, S17, S18**)

Muck  Bedrock

Vegetation. Type/% cover:

Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **moderate stability – banks vegetated (S5, S7, S9, S10, S11, S12, S13); entrenched channel, extensive scour (S15, S16, S17, S18); stable, wetland-stream complex (S1, S3, S6, S8)**

Tributary geometry:

Tributary gradient (approximate average slope): **S1 – 1.68%, S3 – 2.93%, S5 – 1.76%, S6 – 0.71%, S7 – 2.89%, S8 – 2.34%, S9 – 0%, S10 – 11.5%, S11 – 0%, S12 – 1.23%, S13 – 0.92%, S15 – %, S16 – %, S17 – %, S18 – %, S19 – %**

(c) Flow:

Tributary provides for: **perennial flow (S1, S3, S5, S6, S8, S15, and S18), intermittent flow (S9, S16, and S17), and ephemeral flow (S7, S10, S11, S12, and S13)**

Estimate average number of flow events in review area/year: **unknown**

Describe flow regime: **see above**

Other information on duration and volume: **The Corps observed a small amount of flow in S16 at the time of the site visit. The agent stated that S16 was flowing during the 06 February 2013 delineation, but not during a follow-up site visit in July 2013. The Corps observed that S17 was located between two culverts and was not flowing at the time of the site visit. The agent stated that S17 had been flowing on 06 February 2013 at the time of the wetland delineation.**

Surface flow is: **varies, see above** Characteristics:

Subsurface flow: **unknown;**

Dye (or other) test performed: **N/A.**

<sup>5</sup> NOAA, National Weather Service, Advanced Hydrologic Prediction Service, <http://water.weather.gov/precip/> Accessed 01 May 2014. For additional information on normal rainfall, please see <http://water.weather.gov/precip/about.php>

<sup>6</sup> 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.

Tributary has (check all that apply):

- Bed and banks (**all**)
  - OHWM<sup>7</sup> (check all indicators that apply):
    - clear, natural line impressed on the bank
    - changes in the character of soil
    - shelving
    - vegetation matted down, bent, or absent
    - leaf litter disturbed or washed away
    - sediment deposition
    - water staining
    - other (list):
  - Discontinuous OHWM.<sup>8</sup> Explain: N/A.
- the presence of litter and debris
  - destruction of terrestrial vegetation
  - the presence of wrack line
  - sediment sorting
  - scour
  - multiple observed or predicted flow events
  - abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- High Tide Line indicated by:
  - oil or scum line along shore objects
  - fine shell or debris deposits (foreshore)
  - physical markings/characteristics
  - tidal gauges
  - other (list):
- Mean High Water Mark indicated by:
  - survey to available datum;
  - physical markings;
  - vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: **water generally clear in all streams with occasional iron or bacterial sheen on the water surface in slow moving portions of channels. The Tuscarora Creek – Potomac River Watershed (10-digit HUC 0207000804) has approximately 268 miles of perennial and intermittent streams (combined). The land cover of the watershed as of 2006 included approximately 9.6 percent developed land, 28.1 percent forest, and 55.7 percent agricultural use<sup>9</sup>. Around the time of the Civil War, the area in and around Rock Run and the C&O Canal were subject to gold-mining activity. Landscape features including large excavations, spoil piles, and U-shaped excavated channels are typical of the area<sup>10</sup>.**

Identify specific pollutants, if known: **unknown**

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): **forested, approximately 21 feet wide (S15, S16, S17, S18) to 366 feet wide (S1, S3, S5, S6, S7, S8, S9, S10, S11) at the widest point, dominated by approximately 5 – 20 year old deciduous forest, depending on the reach; S12 and S13 riparian corridor is mowed grass**
- Wetland fringe. Characteristics: **stream-wetland complexes: S1/S3/W-1, S5/S6/W-2, S8/W-3, S13/W-5, S15/W-6**
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings: **Streams with perennial flow (S1, S3, S5, S6, S8, S15, and S18) and intermittent flow (S9, S16, and S17) would be expected to support fish habitat**
  - 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:**

(a) General Wetland Characteristics:

Properties:

Wetland size: **W-1 (35,992 square feet), W-2 (46,116 square feet), W-3 (29,070 square feet), W-4 (2,897 square feet), W-5 (2,012 square feet), W-6 (8,656 square feet), W-7 (13,911 square feet), W-8 (52,021 square feet), W-9 (11,759 square feet), W-11 (393 square feet)**

Wetland type. **six PFOs (W-1, W-2, W-3, W-6, W-7, and W-9), three PEMs (W-4, W-5, and W-11), one PEM/POW (W-8)**

Wetland quality. Explain: **Refer to Section IV.B.**

Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

<sup>7</sup>A 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

<sup>8</sup>Ibid.

<sup>9</sup>USACE HUC Characterization tool, Tuscarora Creek – Potomac River Watershed (10-digit HUC 0207000804). Accessed 02 May 2014.

<sup>10</sup>Rock Run Subwatershed. Montgomery County, MD Environmental Protection. <https://www.montgomerycountymd.gov/DEP/water/rock-run-watershed.html>. Accessed 02 May 2014.

Flow is: **W-1 is a stream-wetland complex with S1 and S3 and drains through those streams to W2, which is a stream-wetland complex with S5 and S6. W-11 also drains into S3. W-3 is a stream-wetland complex with S8 that also drains to S-6, which flows south offsite to the C&O Canal. W-4 drains to and W-5 is a stream-wetland complex with S13, which drains south offsite to the C&O Canal. W-6 is a stream-wetland complex with S15, which drains east offsite to Rock Run. W-7 and W-8 drain east through W-9 and then east offsite to Rock Run.** Surface flow is: **clear, if present; although a clear drainage path connected W-4 to S13, no water was flowing in the drainage at the time of the site visit.**

Characteristics:

Subsurface flow: **unconfirmed in the field, but likely present** Explain findings: **groundwater seeps were not observed in wetland area on site during Corps site visit. However, the agent stated that W-11 had formed from groundwater seeps flowing south that had been backed up against the culvert and mentioned that a survey of macro-invertebrates of W-11 had found scuds, an organism that requires the perennial presence of water, in W-11. Also W-1, W-2, and W-3 are all part of stream-wetland complexes with perennial streams, indicating that groundwater discharge is present to support baseflow.**

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting (**W-1, W-2, W-3, W-5, and W-6**)

Not directly abutting

Discrete wetland hydrologic connection. Explain: **W-4 drains less than 20 linear feet through a discrete upland drainage to a non-RPW, S13. W-7 and W-8 drain east through W-9, which drains east offsite through a culvert directly into Rock Run. W-11 drains less than 20 linear feet directly through a culvert to S3, a perennial RPW.**

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **less than 1** river miles from TNW.

Project wetlands are **less than 1** aerial (straight) miles from TNW.

Flow is from: **The southern and western portions of the site (includes W-1, W-2, W-3, W-4, W-5, W-6, and W-11) drain south off the property to the C&O Canal, a historic traditional navigable waterway (TNW), which then drains to the Potomac River, a tidal, navigable, interstate tributary of the Chesapeake Bay, a TNW. The eastern portion (includes W-7, W-8, W-9) of the site drains east off the property to Rock Run, a lower perennial stream, which then drains to the Potomac River, a tidal, navigable, interstate tributary of the Chesapeake Bay, a traditional navigable waterway.**

Estimate approximate location of wetland as within the floodplain: **stream-wetland complexes: S1/S3/W-1, S5/S6/W-2, S8/W-3, S13/W-5, S15/W-6; W-4 drains less than 20 linear feet through a discrete upland drainage to a non-RPW, S13. W-7 and W-8 drain east through W-9, which drains east offsite through a culvert directly into Rock Run. W-11 drains less than 20 linear feet directly through a culvert to S3, a perennial RPW.**

(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 clear; ground is very soft; water quality was not examined and no sensitive species were observed; see above detail about Rock Run – C&O Canal area in Montgomery County, MD**

Identify specific pollutants, if known: **none known**

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): **forested, approximately 21 feet wide (W-6) to 366 feet wide (W-1, W-2, W-3, W-7, W-8, W-9) at the widest point, dominated by approximately 5 – 20 year old deciduous forest, depending on the reach; W-4, W-5, and W-11 riparian corridor is mowed grass**

Vegetation type/percent cover. Explain: **Deciduous forest approximately 5 years old (W-6); deciduous forest approximately 10 - 20 years old (W-1, W-2, W-3, W-7, W-8, W-9); mowed grass (W-4, W-5, W-11)**

Habitat for: **unknown – detailed wildlife study not completed for site**

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: **10 jurisdictional wetlands on site – 4.66 acres**

Approximately **4.66** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

**W-1 (Y)**

Size (in acres)

**0.83**

Directly abuts? (Y/N)

**W-2 (Y)**

Size (in acres)

**1.09**

W-3 (Y)	0.67	W-4 (N)	0.07
W-5 (Y)	0.05	W-6 (Y)	0.20
W-7 (N)	0.32	W-8 (N)	1.19
W-9 (N)	0.27	W-11 (N)	0.01

Summarize overall biological, chemical and physical functions being performed: **Refer to Section IV.B.**

### 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: **W-4 drains less than 20 linear feet through a discrete upland drainage to a non-RPW, S13, which drains south directly offsite into the C&O Canal, a historic TNW. Another non-RPW, S12, drains directly into S13. S7, S10, and S11 all drain directly into S6, a perennial RPW, which drains south offsite directly into the C&O Canal, a historic TNW.**
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: **W-7 and W-8 drain east through W-9, which drains east offsite through a culvert directly into Rock Run, a perennial tributary to the Potomac River, a TNW. W-11 drains less than 20 linear feet directly through a culvert to S3, a perennial RPW, which drains south into S1, a perennial RPW, which drains south into S6, a perennial RPW, which drains south offsite directly into the C&O Canal, a historic TNW.**

\* Aquatic Life (Organisms): **Due to the ephemeral nature of the flow in S7, S10, S11, S12, and S13, large aquatic organisms, such as fish, or aquatic organisms that require longer term flow would not be expected to be present. However, more opportunistic organisms that only require a short period of time to develop, such as some species of benthic macro-invertebrates, could potentially be expected to be present. During the Corps' site visit on 12 November 2013, at the beginning of the wet season, water was not observed to be flowing in the channels, but no rain had fallen at the site in the five days prior to the site visit and much of central Maryland, including the project, had 0.5 inches less than normal average monthly rainfall for November during November 2013. Wetland W-4 that drains to S13 and Wetland W-5 that is in a stream-wetland complex with S13 would similarly not provide habitat for large aquatic organisms or those that require long periods of flow, but may support organisms that only require brief periods of inundation to survive. Wetlands W-7, W-8, W-9, and W-11 all drain directly or indirectly to TNWs through culverts, which can hinder the movement of organisms upstream. However, all four wetlands have characteristics that indicate that water is present for long periods of time and would thus be expected to support small organisms, including those that require the presence of water for longer periods of time. For example, the agent mentioned that a survey of macro-invertebrates of W-11 had found scuds, an organism that requires the perennial presence of water.**

- \* **Habitat for Wildlife:** A detailed assessment of the quality of wildlife habitat was not performed. The forested stream corridors, wetlands, and adjacent upland areas provide habitat for a variety of upland wildlife species. Even the mowed grass areas, such as those in and around W-4, W-5, S12, S13, and W11, may support upland wildlife species, such as white-tailed deer. Additionally, W-8 is comprised of open water surrounded by an emergent fringe. The open water may support some waterfowl.
- \* **Support Nutrient Cycling:** The ephemeral channels and abutting riparian areas would encourage chemical processes that require oxygenated conditions. Also, for wetlands and streams located in forested areas where carbon (fallen leaves) is allowed to be incorporated into the soil, uptake by plants can take place and carbon is provided to facilitate microbial action for nutrient cycling. Additionally, the conveyance of some of the detritus downstream may provide soil nutrition and a food source for fish and other aquatic organisms downstream. Although W-4, W-5, and W11 are surrounded by mowed grass areas that have all the deposited carbon (grass clippings) removed, the reducing conditions in the wetlands can support parts of nutrient cycles that require reducing conditions (e.g. denitrification).
- \* **Sediment Transport:** The opportunity to perform this function is adequate for the streams with ephemeral flow (S7, S10, S11, S12, and S13) because within these streams there are no major blockages, such as a beaver dam, to arrest the transport of sediment.
- \* **Pollutant Trapping:** The wetland and streams that drain the area of review would be expected to receive most of the pollutants deposited on the impervious surfaces (e.g. roads, parking lots, building roofs) of the facility. Potential sources of pollutants in the area of review may include motor vehicles (e.g. degradation of brakes can result in the deposition of copper), atmospheric deposition, fertilizers, pesticides (maintained mowed areas), and trash. All the streams and wetlands on site are located in vegetated areas. Plants in general, and trees in particular, may trap some of the pollutants transported into the wetlands and streams on site. Ephemeral channels only tend to flow during and for a short period after storm events and in-channel flow during storm events tends to have very limited residence time; therefore although some of the vegetation in the floodplain may be able to trap pollutants, there is likely to be limited trapping of pollutants overall.
- \* **WQ Improvement:** Based on opportunities for trapping pollutants and facilitating nutrient cycling, the wetlands and streams in the area of review have a moderate opportunity to improve the chemical and physical aspects of water quality. However, streams that are already incised and are continuing to erode, such as S10 and S11, may be having an adverse effect on water quality by acting as a sediment source for downstream waters.
- \* **Temperature:** The trees in the riparian buffer would be expected to contribute shade which would moderate temperature fluctuations in the channel, thereby moderating fluctuations of the concentration of dissolved oxygen (DO) and improving biological water quality improvement.
- \* **Flood Storage:** S10 and S11 are incised streams with no connection to a floodplain and no opportunities for flood storage. S7, S12, and S13 are stable and connected to their floodplains, which would allow them to provide flood storage. Wetlands W-4, W-5, W-7, W-8, W-9, and W-11 would be expected to contribute to flood storage by holding water that drains to those wetlands.
- \* **Commerce:** S7, S10, S11, S12, and S13 are all too small and flow too infrequently to provide recreational boating or fishing and thus have limited opportunities to support commerce. However, they would be expected to contribute stream flow and a small amount detritus to downstream waters which would improve water quality downstream in the Potomac River, a TNW which does support some fishing activities and supports boating in the tidal areas.
- \* **Navigation:** S7, S10, S11, S12, and S13 are too small to be navigable.
- \* **Recreation:** S7, S10, S11, S12, and S13 are all located on private government property and have limited recreational opportunities due to small size and lack of regular or seasonal water flow regime. If allowed, the area of review could support additional recreational activities such as hiking and bird watching proportionate to the riparian upland forested habitat.
- \* **Public Health:** All of the streams and wetlands on site indirectly drain less than a mile into the Potomac River. If a stream or wetland on site were to become impaired (e.g. oil spill), it is possible that the Potomac River could be affected by the contamination on site, which in turn could affect public health.
- \* **Groundwater Discharge:** Groundwater seeps were not observed during the 12 November 2013 site visit, but were observed by the agent in W-11 during the February 2013 delineation and would be expected to be present in W-7, W-8, and W-9 to support the forested wetland and open water wetland for much of the year.
- \* **Groundwater recharge:** S7, S10, S11, S12, and S13 are all ephemeral streams that flow primarily during and briefly after storm events. Therefore, water in these streams would be expected to be moving at a velocity that is too fast to encourage groundwater recharge.

Based on the above and field experience in Central Maryland, S7, S10, S11, S12, S13, W-4, W-5, W-7, W-8, W-9, and W-11 do have a significant nexus with the physical, chemical, or biological integrity of the TNW.

**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:  
 Wetlands adjacent to TNWs:

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 streams S1, S3, S5, S6, S8, S15, and S18 all were observed to have well developed stream morphology characteristic of perennial flow, including channel sinuosity; sediment sorting; the presence of aquatic fauna (e.g. fish observed in S1 during the Corps site visit; scuds found in macroinvertebrate survey in W-11, which drains to S3); flow observed during the Corps site visit at the beginning of the “wet season” or ponding in the channel when the last rain had been approximately five days prior to the site visit; and clear and consistent bed, bank, and ordinary high water mark as indicated by the absence of rooted vegetation within the channel, the absence of debris within the channel, and some scour of the channel.**

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: **The streams S9, S16, and S17 were all observed to have moderately-well developed stream morphology characteristic of seasonally-intermittent flow, including channel sinuosity; sediment sorting; flow observed during the Corps site visit at the beginning of the “wet season” or ponding in the channel when the last rain had been approximately five days prior to the site visit; and clear and consistent bed, bank, and ordinary high water mark as indicated by the absence of rooted vegetation within the channel, the absence of debris within the channel, and some scour of the channel. While the seasonally-intermittent streams had many of the same stream morphological characteristics as the perennial streams, the characteristics in the seasonally-intermittent streams were generally not as well defined or as consistent, e.g. stream S16 was observed flowing during the Corps site visit in November 2013 and during the wetland delineation February 2013, but not during a follow-up site visit to the delineation in July 2013.**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters (linear feet): **S1 (950), S3 (376), S5 (965), S6 (563), S8 (171), S9 (105), S15 (1,865), S16 (460), S17 (524), S18 (724)**  
 Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters:

3. **Non-RPWs<sup>11</sup> 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: **S7 (277), S10 (61), S11 (130), S12 (81), and S13 (545)**

Other non-wetland waters: \_\_\_\_\_  
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: **W-1 (0.83), W-2 (1.09), W-3 (0.67), and W-6 (0.20) are all part of stream-wetland complexes, directly overlapping in aerial coverage with portions of the streams they are directly abutting.**

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: **N/A** Provide acreage estimates for jurisdictional wetlands in the review area: **N/A**

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.

<sup>11</sup>See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: **W-7 (0.32), W-8 (1.19), W-9 (0.27), and W-11 (0.01) all flow directly or indirectly (W-7 and W-8 flow through W-9) into RPWs through culverts, but are not floodplain wetlands or part of a stream-wetland complex**

**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 acreage estimates for jurisdictional wetlands in the review area: **W-4 (0.07) and W-5 (0.05)**

**7. Impoundments of jurisdictional waters.<sup>12</sup>**

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):<sup>13</sup>**

- 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:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:  
 Other non-wetland waters:  
Identify type(s) of waters:  
 Wetlands:

**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: **During the 12 November 2013 Corps site visit, the circumference of the isolated wetland W-10 was walked and no culvert or other drainage was visible connecting W-10 with nearby tributaries. W-10, a 1,248 square-foot isolated wetland is located approximately 320 feet from the nearest stream, but is separated from the stream by a paved road and separated from the nearest wetland (W-8) by a high spot in the topography. The wetland was likely formed by direct precipitation and runoff from the adjacent road water inputs trapped in a low spot along the road. The areas immediately adjacent to this isolated wetland are upland and there is no culvert connecting the wetland with any waters of the United States at this location or any other field evidence of connection to a stream; therefore, based on US vs James Wilson 4<sup>th</sup> circuit case/CFR 328.3 (a)(3), the Baltimore District does not regulate this isolated wetland.**  
 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):  
 Lakes/ponds:  
 Other non-wetland waters: List type of aquatic resource:

<sup>12</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>13</sup> 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.

Wetlands:

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):
- Lakes/ponds:
- Other non-wetland waters:            acres. List type of aquatic resource:
- Wetlands: **W-10, 1,248 square feet**

#### **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: **ADC vicinity map included in Environmental Systems Analysis Inc. submission dated 28 August 2013.**
- 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. **From watersheds data layer on ArcGIS Explorer**
- U.S. Geological Survey map(s). Cite scale & quad name: **Falls Church 1998 7.5 minute quad included in submission dated 28 August 2013; Topography included on delineation map in July 2013 Delineation Report;**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **soil resource report of soil series mapped on site included in submission dated 28 August 2013.**
- National wetlands inventory map(s). Cite name: **NWI map of site provided in submission dated 28 August 2013.**
- State/Local wetland inventory map(s): **MDNR Wetland Inventory Map of site provided in the submission dated 28 August 2013; Wetlands of Special State Concern and DNR wetlands data layer for area of review from the Watershed Resources Registry through ArcGIS Explorer (no wetlands shown on site).**
- FEMA/FIRM maps: **panels 430 and 435 of 480 included in submission dated 28 August 2013.**
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **aerial photo of site dated 2008 provided by NAVFAC; Infrared aerial map from MERLIN dated 1994, and NAIP imagery dated 2011 from MERLIN, all included in the submission dated 28 August 2013.**  
or  Other (Name & Date): **Photographs included with Delineation Report dated July 2013.**
- Previous determination(s). File no. and date of response letter: **the agent stated that a JD had been conducted on the project site in 1996, but no Corps records are available of that JD**
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **normal and departure from normal precipitation for November 2013 from NOAA NWS (for Corps site visit)**

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**References:**

**NOAA National Weather Service <http://water.weather.gov/precip/> Accessed 30 April 2014.**

**Rock Run Subwatershed. Montgomery County, MD Environmental Protection. <https://www.montgomerycountymd.gov/DEP/water/rock-run-watershed.html>. Accessed 02 May 2014.**

**USACE HUC Characterization tool, Tuscarora Creek – Potomac River Watershed (10-digit HUC 0207000804). Accessed 02 May 2014.**