

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): 16 March 2023

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: NAB-2023-00108-M51 (Atlantic Firearms/AJD)

C. PROJECT LOCATION AND BACKGROUND INFORMATION: A 13.2-acre area of review on the lands of BB & HBCO, LLC, Tax Map 601, Parcels 38 and 113. The property is located at 7125 Powellville Road, in the town of Willards, Wicomico County, Maryland. The parcel is bounded to the south by a private property and to the north by US Route 50.

State: Maryland County/parish/borough: Wicomico County City: Willards
Center coordinates of site (lat/long in degree decimal format): Lat. 38.385294, Long. -75.352897
Name of nearest waterbody: Gordy's Branch (Tax Ditch)
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pocomoke River
Name of watershed or Hydrologic Unit Code (HUC): 021302030652 (12-digit HUC) / Whaleyville Branch-Pocomoke River
 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: 6 March 2023
- Field Determination. Date(s): 22 February 2023

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** "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: 1,083 linear feet (lf)

Wetlands: 0.07 acres (3,049.2 sq.ft)

c. Limits (boundaries) of jurisdiction based on: 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the Atlantic & Gulf Coastal Plain Regional Supplement to '87 Manual.
Elevation of established OHWM (if known): The OHWM is highly variable, and thus is unknown.

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).

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined not to be jurisdictional. Explain: The applicant delineated two (2) linear surface water features (agriculture ditches) within the 13.2-acre area of review measuring approximately 830 lf and 450 lf. The 830 lf ditch and approximately 250 lf of the 450 lf ditch were determined to be non-RPWs without significant nexus and are therefore non-jurisdictional. While both agricultural drainage ditches were constructed in hydric soils (mapped Berryland-series), the Corps field inspection confirmed that each ditches hydrology was predominately the result of precipitation whereby these surface water features convey upland flow from roadside ditches and surrounding agricultural fields. The ditches do not carry a relatively permanent flow of water. Refer to 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: N/A

Summarize rationale supporting determination: N/A

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": N/A

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:

Watershed size: 3.5 acres

Drainage area: 3.5 acres

Average annual rainfall: 44.26 inches

Average annual snowfall: 9.68 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

³ Supporting documentation is presented in Section III.F.

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

Tributary flows through 2 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.

Project waters are 1(or less) river miles from RPW.

Project waters are 1-2 aerial (straight) miles from TNW.

Project waters are 1(or less) aerial (straight) miles from RPW.

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

Identify flow route to TNW⁵: Tributary (ditch) flows through the review area into Gordy's Branch, which flows into Pocomoke River (TNW).

Tributary stream order, if known: 1 Order

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

Tributary is: Natural
 Artificial (man-made). Explain: Tributary is an agricultural drainage ditch created post-construction of US Route 50.
 Manipulated (man-altered). Explain:

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

Average width: 8-12 feet

Average depth: 2-3 feet

Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: n/a
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable.

Tributary geometry: Relatively Straight

Tributary gradient (approximate average slope): Unknown – very gradual/near flat slope

(c) Flow:

Tributary provides for: Seasonal flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: The flow regime is seasonal/intermittent, with flow greater than 3 months per year. The ditch contains a layer of dark stained leaves, which indicates hydrology for a significant portion of the year.

Other information on duration and volume: N/A.

Surface flow is: Discrete and Confined Characteristics: Receives overland flow from agriculture fields and floodplain/adjacent wetland. Channel is confined to banks.

Subsurface flow: Unknown

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

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour

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.

⁶ 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

- sediment deposition
- water staining
- other (list):
- Discontinuous OHWM.⁷ Explain: N/A.
- 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 color is dark due to presence of stained leaves.
 Identify specific pollutants, if known: Potential pollutants entering the tributary from agriculture field.

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- 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:

(a) General Wetland Characteristics:

Properties:
 Wetland size: 0.07 acres
 Wetland type. The wetland type is Palustrine Forested (PFO)
 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:

Flow is: Intermittent (>3 mos/yr) Explain:

Surface flow is:

Characteristics: Wetland topography slopes into ditch, suggesting flow from wetland to ditch.

Subsurface flow: Explain findings:

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain:
 - Ecological connection. Explain:
 - Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 1-2 river miles from TNW.
 Project waters are 1-2 aerial (straight) miles from TNW.
 Flow is from: Wetland to RPW to navigable water
 Estimate approximate location of wetland as within the 50 to 100-year floodplain.

(ii) Chemical Characteristics:

⁷Ibid.

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Wetland does not have standing water.
 Identify specific pollutants, if known: Potential pollutants enter wetland from adjacent upland agriculture field.

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

Riparian buffer. Characteristics (type, average width): Project lies within an approximately 300-foot wide forested riparian buffer of Gordy Branch.

Vegetation type/percent cover. Explain: A wetland data sheet completed in the wetland vicinity documents *Acer rubrum* (red maple) and *Liquidambar styraciflua* (sweet-gum) in the tree stratum, *Ilex opaca* (American holly) and *Magnolia virginiana* (sweet bay magnolia) in the sapling stratum, and *Ilex opaca* and *Symplocos tinctoria* (horsesugar) in the shrub stratum, and *Microstegium vimineum* (Japanese stiltgrass) in the herbaceous stratum. 100% of documented species are FAC or FACW.

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The MDNR maps the project area as a Forest Interior Dwelling Species habitat area.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 1

Approximately 0.07 acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y	0.07		

Summarize overall biological, chemical and physical functions being performed: The 0.07-acre wetland receives runoff from adjacent upland agriculture fields and has the potential to trap and store sediments and pollutants before discharging to the agriculture ditch tributary and subsequently downstream to Gordy Branch. The wetland is located in the 100-year floodplain within the forested riparian buffer of Gordy Branch. The PFO wetland and surrounding forest is mapped as a Forest Interior Dwelling Species habitat area. Factors considered by the Corps include removal of herbicides, pesticides, runoff from roadways, sediment removal, flood storage, groundwater recharge, organic carbon input.

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: The applicant delineated two linear features (drainage ditches) in the project area measuring approximately 830 (north ditch) and 450 linear feet (south ditch). The 830 linear-foot ditch and approximately 250 linear feet of the 450 linear-foot ditch were determined to be non-jurisdictional. These man-made features have defined bed and bank and are located in Berryland soils (85% hydric soil rating), with an ordinary high water mark. Surface water within these features was determined to be non-relatively permanent with flow less than 3 months per year. The ditches do not have more than a speculative/insubstantial effect on the chemical, physical, and biological integrity of the nearest TNW (Pocomoke River). They have no adjacent wetlands and carry relatively little water to the TNW. Additionally, whereas the lower 200 linear feet of the south ditch is adjacent to a PFO wetland and within a 300-foot riparian buffer of Gordy Branch, the upper 250 linear feet of the south ditch and entire north ditch are located within an agriculture field with low habitat quality.
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: N/A
 Wetlands adjacent to TNWs: N/A

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:
 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: **1,083** If
 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:
 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:

- 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:

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

⁸See Footnote # 3.

- 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:

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:

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:

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:**

Approx. 1,080 lf of man-made agricultural drainage ditches exhibited no surface water connection in the field. In addition, no surfacer water connection was observed on timelapse aerial imagery, ground photos, topographic/landscape maps, or LiDAR. Upslope flow is generally overland topographic sheet flow where the drainage ditches convey agricultural and roadside contributing surface runoff.

- 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:

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.

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:

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: Plans prepared by McCrone dated 01 November 2022; Wetland Report prepared by WatershedEco dated 24 February 2023.

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. Wetland report notes that ditches are not

USACE jurisdictional. Office only partially concurs with this finding (south ditch is partially jurisdictional).

Data sheets prepared by the Corps:

Corps navigable waters' study:

U.S. Geological Survey Hydrologic Atlas: 12-digit HUC 021302030

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name:

USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey (2017)

National wetlands inventory map(s). Cite name: NWI Wetland Mapper GIS Layer

State/Local wetland inventory map(s): Maryland Department of Natural Resources State Wetland Inventory GIS data layer

FEMA/FIRM maps: 24045C0163E eff. 17 August 2015

100-year Floodplain Elevation is: _ (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): Google Earth September 2005, August 2006, February 2007, September 2007, October 2009, November 2011, March 2013, November 2016, August 2020; HistoricAerials.com 1958, 1973; Watershed Resources Registry (MD) Color Infrared (CIR) digital orthophotquad or Other (Name & Date): Photographs by M. Spindler 22 February 2023.

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:

References:

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

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

Cowardin, Lewis M., V. Carter, F.C. Golet, and E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish & Wildlife Service - Biological Services Program. FWS/OBS-79/31.

Reed, P.B., Jr. 1988. *National List of Plant Species that Occur in Wetlands: 1988 National Summary*. Biological Report 88(24), U.S. Fish and Wildlife Service, Washington D.C.