

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers
FORM 1 of 1

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): 13JUN2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, Plum Creek Holly Hill Tract, SAC-2016-00114

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Orangeburg** City: **Holly Hill**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.297° N**, Long. **80.4277° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **unnamed tributary**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Edisto River**

Name of watershed or Hydrologic Unit Code (HUC): Upper Portion of the Cooper River/Charleston Harbor Watershed (**03050201-07**)

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: **04FEB2016**

Field Determination. Date(s): **02MAR2016**

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:

Wetlands: **Total 33.31 acres; specifically, Wetland 1, 1.40 ac; Wetland 2, 23.17 ac; Wetland 3, 3.84 ac; Wetland 4, 0.50 ac; Wetland 5, 1.12 ac, and Wetland 6, 3.28 ac.**

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Pick List, Pick List

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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.

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Two linear conveyance features located on the site were evaluated as potentially jurisdictional pursuant to Clean Water Act Section 404. The features were determined NOT to be jurisdictional based on their status as manmade ditches constructed and located outside wetlands; and which do not carry a relatively permanent flow of water. However, one feature does act as a means of hydrologic conveyance to establish jurisdiction to wetlands onsite; specifically, the feature connects Wetland 1 to Wetland 2. Flow from Wetland 1 is intermittent and may occur seasonally and/or after rain events when surface water in the wetland may be present. The two non-jurisdictional linear features are depicted on a supplemental sketch in the project file.

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:

Watershed size: 183,907 acres

Drainage area: Approx. 7,744 acres

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 15-20 river miles from TNW.

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

Project waters are 15-20 aerial (straight) miles from TNW.

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

Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: **The Home Branch (a RPW) flows to the Home Branch Relocation Canal to the Four Hole Swamp to the Edisto River (a TNW).**
Tributary stream order, if known: **2nd**.

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

Tributary is: Natural: Home Branch
 Artificial (man-made): **Home Branch Relocation Canal. Historically, the Home Branch flowed south through the center of an adjacent property where a quarry is now located. The Home Branch Relocation Canal was excavated around the perimeter of the quarry to maintain flow from upstream waters of Home Branch to the downstream Four Hole Swamp.**
 Manipulated (man-altered). Explain: .

*****Note: The Home Branch and the Home Branch Relocation Canal are located on adjacent properties not owned by the JD requestor; site access not authorized.**

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

Average width: **approximately 10 feet**
Average depth: **approximately 2-4 feet**
Average side slopes: **approximately 1.5:1**

Primary tributary substrate composition (check all that apply):

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

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

Presence of run/riffle/pool complexes. Explain:

Tributary geometry:

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: **Perennial flow**

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

Describe flow regime: **Perennial flow**

Other information on duration and volume: **Year round**

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

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
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

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.

⁷Ibid.

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: **Water quality of the Home Branch is likely to be fair, because the natural upstream portions of the Home Branch provide drainage for the Town of Holly Hill, as well as water runoff from adjacent uplands and associated wetlands. This runoff can include, but is not limited to, pollutants, sediments, excess nutrients, organisms, and carbon. The Home Branch then flows into the Home Branch Relocation Canal which flows around the perimeter of the adjacent quarry; which also drains into the canal downstream of this site.**

*****Note: The Home Branch and the Home Branch Relocation Canal are located on adjacent properties not owned by the JD requestor; site access not authorized.**

Identify specific pollutants, if known: .

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

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: **The tributary contains surrounding wetlands (coded as PF01C) that form a riparian corridor along the majority of its reach that consists mainly of forested and scrub/shrub wetlands.**
- Habitat for:
 - Federally Listed species. Explain findings: **Frosted Flatwoods Salamander (T), per the USFWS.**
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: **The offsite tributary has areas of vegetation, leaf litter, and debris that may provide habitat for small organisms such as small fish, insects, and amphibians. Larger wildlife such as mammals and wading birds may also utilize the tributary as a food and water source; as well as a corridor for movement of aquatic organisms from wetland to wetland, as well as movement to the Home Branch Relocation Canal and to Four Hole Swamp.**

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW:**

******Wetland 1, 2, 3, 4, 5, and 6******

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: **Wetland 1, 1.40 ac; Wetland 2, 23.17 ac; Wetland 3, 3.84 ac; Wetland 4, 0.50 ac; Wetland 5, 1.12 ac, and Wetland 6, 3.28 ac.**

Wetland type. Explain: **Wetland 1, forested/herbaceous; Wetland 2, forested/shrub; and Wetlands 3/4/5/6, forested/shrub/herbaceous.**

Wetland quality. Explain: **Low to moderate quality due to continuous tree farming/agricultural activities and associated hydrologic alterations of adjacent upland areas.**

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Wetland 1, 5, and 6: Flow is: **Intermittent.** **Wetland 1, 5, and 6 are each connected to Wetland 2 and Home Branch (a RPW) by means of manmade linear non-jurisdictional drainage features. Each wetland has an intermittent flow that may occur seasonally and/or after rain events when surface water in the wetlands may be present.**

Wetland 2: Flow is: **Intermittent.** **Wetland 2 is directly abutting a perennial tributary (RPW) that flows directly or indirectly to a TNW.**

Wetland 3: Surface flow is: **Discrete and unconfined**

Wetland 3 is separated from Wetland 2 (which is directly abutting a RPW) by a manmade berm created by side-cast during the excavation of a small pond. The depressional topography of the wetlands and surrounding uplands is flat and uniform. A discrete unconfined flow was observed between Wetland 3 and Wetland 2 which are in close proximity to one another. But for the manmade berm, Wetland 3 and Wetland 2 would be considered one wetland.

Wetland 4: Surface flow is: **Discrete and unconfined**

Wetland 4 flows across uplands to Wetland 6 which is connected to Wetland 2 and Home Branch (a RPW) by means of manmade linear non-jurisdictional drainage feature. The depressional topography of the wetland and

surrounding uplands is flat and uniform, so it is possible there is ephemeral or intermittent flow. Based on the discrete unconfined hydrology that was observed, it is likely that discrete flow across the uplands occurs seasonally and/or after rain events when water in the wetland may be present.

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting: **Wetland 2 is directly abutting the Home Branch; a perennial tributary (RPW) that flows directly or indirectly to a TNW.**

Not directly abutting

Discrete wetland hydrologic connection. Explain: **Flow from Wetland 1, 3, 4, 5, and 6 was observed in connection with Wetland 2 and the offsite RPW during the site visit either by a hydrologic surface flow or via manmade non-jurisdictional drainage features. The depressional topography of the wetlands and surrounding uplands is flat and uniform, so it appears that ephemeral or intermittent flow occurs during wetter seasons and/or after rain events when surface water in the wetland is present.**

Ecological connection. Explain: **The wetlands onsite are directly and indirectly connected to an offsite perennial tributary (a RPW). This wetland system is surrounded by undeveloped uplands that have undergone routine timber operations, which can provide a pathway for wildlife to move between the wetland system and the RPW. Due to the close proximity and connectivity of the onsite wetlands to the offsite tributary system, as well as its position in the landscape, organisms that typically utilize wetlands such as mammals, reptiles, amphibians, and birds, may also utilize the tributary and vice versa.**

Separated by berm/barrier. Explain: **Wetland 3 is in close proximity to Wetland 2 (which is directly abutting a RPW), but separated from one another by a manmade berm created by side-cast during the excavation of a small pond. The depressional topography of Wetland 2 and 3 is flat and uniform, there are similarities in plant communities and soils, and there was a discrete unconfined flow observed between the wetlands. But for the berm, Wetland 3 and Wetland 2 would be considered one wetland and are functioning as such.**

Similarly, for JD# NWP-2007-428, the USEPA and the USACE evaluated two wetlands that were separated by a low, manmade berm created over multiple years by plow patterns. The agencies determined that due to the position in landscape, similarities in plant communities and soils, and indicators of shallow subsurface connection, the two wetlands were in fact functioning as one wetland, despite the presence of the berm.

(d) Proximity (Relationship) to TNW

Project wetlands are **15-20** river miles from TNW.

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

Flow is from: **Wetland to/from navigable waters.**

Estimate approximate location of wetland as within the **Pick List** 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: **The water quality of the wetlands appeared to be good when observed (i.e., clear/not murky or stagnant, no surface sheen from chemical pollutants, no algal growth, etc.). Water quality of the Home Branch is likely to be fair, because the natural upstream portions of the Home Branch provide drainage for the Town of Holly Hill, as well as water runoff from adjacent uplands and associated wetlands. This runoff can include, but is not limited to, pollutants, sediments, excess nutrients, organisms, and carbon. The Branch then flows into the Home Branch Relocation Canal which flows around the perimeter of the adjacent quarry; which also drains into the canal downstream of this site.**

***Note: **The Home Branch and the Home Branch Relocation Canal are located on adjacent properties not owned by the JD requestor; site access not authorized.**

Identify specific pollutants, if known: .

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

Riparian buffer. Characteristics (type, average width): **Wetland 2 is a forested wetland that is directly abutting the Home Branch (a RPW). It is subject to frequent inundation, helps to control sediment, reduce the damaging effects of flooding, and aids in stabilizing the stream banks. It acts as a transition zone between the upland terrestrial environment and the aquatic environment of the Home Branch. Organisms found in this zone are adapted to periodic flooding. Many not only tolerate it, but require it in order to maintain health and complete their lifestyles.**

Vegetation type/percent cover. Explain:

Habitat for:

Federally Listed species. Explain findings: **Frosted Flatwoods Salamander (T), per the USFWS.**

- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .
- Aquatic/wildlife diversity. Explain findings: **All wetlands onsite contained standing/flowing water.**

The vegetation observed includes, but is not limited to *Juncus effusus*, *Salix nigra*, *Quercus phellos*, and *Arundinaria gigantea*. Wetlands such as these may attract diverse wildlife, which may include various species of insects, amphibians, reptiles, mammals, and birds; all of which may use the wetlands for all or part of their lives for foraging, nesting and/or shelter.

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

All wetland(s) being considered in the cumulative analysis: **6**

Approximately **33.31** 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>
Wetland 1 – No	1.40		
Wetland 2 – Yes	23.17		
Wetland 3 – No	3.84		
Wetland 4 – No	0.50		
Wetland 5 – No	1.12		
Wetland 6 – No	3.28		

Summarize overall biological, chemical and physical functions being performed: **The review area includes six wetlands that are comprised of poorly to moderately drained loam soils; as well as undeveloped land that has undergone routine timber operations. The review area is part of a watershed that includes perennial and seasonal tributaries, as well as abutting and adjacent wetlands. These systems provide a variety of significant functions that are important for the downstream waters and the watershed as a whole. The wetlands and tributaries not only provide habitat for various aquatic and terrestrial organisms, including a variety of insects, amphibians, reptiles, mammals and birds, but are also a source of food, nutrients, and carbon for organisms located downstream. Headwater wetlands and tributaries are especially important for the water quality of the watershed. Water runoff from adjacent uplands containing pollutants, sediments, excess nutrients, etc., flows through the wetlands before entering the tributary system, which then are filtered out/removed prior to flowing to the downstream TNW. In addition, excess water can temporarily be stored; thereby, minimizing potential flooding of downstream areas and can also slowly release water downstream to maintain seasonal flow volumes. Runoff water may also transport organisms, nutrients, and carbon from the wetlands into the tributaries; which continue to flow to the downstream TNW. Small tributaries often have shallow water, low volume, and slow flow; which allows for more surface area of the water column to come into contact with channel substrate and any vegetation that may be present; thereby, allowing for sediments and pollutants to settle out of or be filtered from the water column before flowing to downstream TNWs.**

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:

The review area includes six wetlands (#1 thru 6) that total 33.31 acres. The review area is a relevant reach of the Home Branch (an offsite RPW) that is part of an 183,907-acre watershed comprised of perennial and seasonal tributaries; as well as abutting and non-abutting wetlands with a drainage area of 12.1 square miles (watershed/wetland basin map and drainage area map attached). The natural upstream portions of the Home Branch provide drainage for the Town of Holly Hill. The Branch then flows into the Home Branch Relocation Canal which flows around the perimeter of the adjacent quarry (which also drains into the Canal) to the Four Hole Swamp to the Edisto River (a TNW). Furthermore, the growth potential of the watershed near the review area (Town of Holly Hill, and parts of the Town of Santee, Vance, Eutawville, and Harleyville) is anticipated to be low, unlike the upper portion of the watershed in Santee and Orangeburg Counties where there is a major growth potential.

As for connectivity, Wetland 1, 3, 4, 5, and 6 are adjacent to, but are not directly abutting the offsite tributary. Wetland 1, 5, and 6 have a surface hydrologic connection via manmade linear non-jurisdictional drainage features which flow to Wetland 2 (which is directly abutting the offsite RPW). Wetland 3 is separated from Wetland 2 by a manmade berm created by side-cast during the excavation of a small pond. The depressional topography of the wetlands and surrounding uplands is flat and uniform. A discrete unconfined flow was observed between Wetland 3 and Wetland 2 which are in close proximity to one another. But for the berm, Wetland 3 and Wetland 2 would be considered one wetland. Due to the close proximity of the wetlands to the offsite tributary, wildlife that typically utilize wetland systems, such as mammals, reptiles, amphibians, and birds, may also utilize the tributary and vice versa; as well as other nearby wetlands and tributaries in the watershed. In addition, excess water can temporarily be stored in the wetland areas; thereby, minimizing potential flooding of the downstream areas and maintain seasonal flow volumes by slowly releasing the stored water.

The headwater wetlands of the Home Branch play a significant role in the water quality of the downstream water (to include the wetlands within the review area) in that water runoff from the Town of Holly Hill and surrounding uplands (which may contain pollutants, sediments, excess nutrients, organisms, carbon, etc.) will have the opportunity to be filtered out prior to reaching the downstream TNW. Per the South Carolina Department of Health and Environmental Control (SCDHEC), monitoring of water quality downstream from the project site, indicates Four Hole Swamp is a blackwater system characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions occur, they were typical of values seen in such systems and were considered natural, not standard violations. Although aquatic life uses are fully supported, recreational uses are partially supported due to fecal coliform bacteria excursions. SCDHEC has also issued a fish consumption advisory due to high mercury within the watershed. The aforementioned trends are indicative of the significant and beneficial role the wetlands in the review area have on downstream water quality and the Edisto River.

Overall, the wetlands within the review area have a significant nexus to downstream waters as they can provide a source of carbon and nutrients, perform water quality functions, provide water storage capabilities, maintain seasonal flow volumes, and have the ability to transport organisms, sediments, clean water, as well as any pollutants that may be present or could become present, to downstream TNWs.

Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:

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 Home Branch (an offsite RPW) flows to the Home Branch Relocation Canal to the Four Hole Swamp to the Edisto River (a TNW). The Home Branch is part of a 183,907-acre watershed comprised of perennial and seasonal tributaries; as well as abutting and adjacent wetlands with a drainage area of 12.1 square miles. The natural upstream portions of the Home Branch provide drainage for the Town of Holly Hill.**

- 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: linear feet 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: **Wetland 2 serves as a forested riparian buffer for the Home Branch (a RPW) and has a direct hydrologic surface connection with the perennial tributary.**
 - 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: **Wetland 2: 23.17 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: **Wetland 1: 1.40 ac; Wetland 2: 23.17 ac; Wetland 3: 3.84 ac; Wetland 4: 0.50 ac; Wetland 5: 1.12 ac, and Wetland 6: 3.28 ac.**

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: .

⁸See Footnote # 3.

⁹To 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.

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: 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): **Two linear conveyance features located on the site were evaluated as potentially jurisdictional pursuant to Clean Water Act Section 404. The features were determined NOT to be jurisdictional based on their status as manmade ditches constructed and located outside wetlands; and which do not carry a relatively permanent flow of water. However, one feature does act as a means of hydrologic conveyance to establish jurisdiction to wetlands onsite; specifically, the feature connects Wetland 1 to Wetland 2. Flow from Wetland 1 is intermittent and may occur seasonally and/or after rain events when surface water in the wetland may be present. The two non-jurisdictional linear features are depicted on a supplemental sketch in the project file.**

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: **Plum Creek Timberlands, LP**

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report. *Concurs with the conclusions reached.

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: .

USDA Natural Resources Conservation Service Soil Survey. Citation: **SC015 (BoB, By, GoA, Ly, Mo).**

National wetlands inventory map(s). Cite name: **PF01C and PF01/4C**

State/Local wetland inventory map(s): .

FEMA/FIRM maps: .

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

Photographs: Aerial (Name & Date): **Google Earth 2015.**

or Other (Name & Date): **Site photos provided by consultant.**

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information attached/enclosed: 1) Memorandum for JD #NWP-2007-428;

2) Watershed/Wetland Basin Map; and

3) Drainage Area Map

B. ADDITIONAL COMMENTS TO SUPPORT JD:

This JD form documents the jurisdictional status of six wetlands adjacent to an offsite perennial RPW. One of the adjacent wetlands (Wetland 2) is directly abutting and the remaining five wetlands (Wetland 1, 3, 4, 5, 6) are non-abutting; therefore, a Significant Nexus Determination was performed on Wetlands 1 thru 5. Based on the documentation provided on this form, the nexus between the onsite wetlands and the downstream TNW is significant. Therefore, Wetlands 1 thru 6 were determined to be jurisdictional and subject to regulation under Section 404 of the Clean Water Act.