

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

Form 1 of 2

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): 1/21/16

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, JL Woode, SAC-2014-00979-2JU Form 1 of 2

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Charleston** City: **Ladson**
Center coordinates of site (lat/long in degree decimal format): Lat. 32.99254° **N**, Long. -80.11611° **W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Spencer Branch**

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

Name of watershed or Hydrologic Unit Code (HUC): 03050201-06

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: **1/9/15, 1/21/16**

Field Determination. Date(s): **4/6/15, 10/23/15**

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: **pRPW Tributary A (Spencer Branch) = 3,124 linear feet, sRPW A = 562 linear feet.**

Wetlands: **Wetland A = 11.054 acres, Wetland B = 0.407 acres, Wetland C = 0.159 acres, Wetland D = 0.158 acres,**

Wetland E = 0.217 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Established by OHWM.

Elevation of established OHWM (if known): .

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 **[Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **There are several ditches within the project area that were excavated wholly out of uplands and drain uplands. It was confirmed during site visits that they are surrounded by uplands and lack signs of relatively permanent flow. Based on a review of historical aerial imagery from 1954, it appears as if they are remnant agricultural ditches. Therefore the ditches have been determined to be non-jurisdictional and not subject to regulation under Section 404 of the Clean Water Act. They are depicted in the administrative record on Figure 6: Jurisdictional Feature Map as Non-JD A-G.**

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

sRPW A and it’s relevant reach is the tributary discussed below for this SND

(i) General Area Conditions:

Watershed size: **86,887 acres**

Drainage area: **38 acres**

Drainage area was approximated for the tributary that was evaluated as part of the Significant Nexus Determination performed for this Jurisdictional Determination. This area was drawn based on apparent flow pathways and drainage areas associated with the subject relevant reach using USGS quadrangle mapping, USGS National Hydrography Dataset mapping, aerial photography, and observations of connectivity and direction of flow made in the field. The intended value of the drainage area map is to document the full collection of

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.

wetlands adjacent to the relevant reach and not to assert that the mapping represents more than approximation with respect to actual area.

Average annual rainfall: **51.53 inches**

Average annual snowfall: **1 inch**

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.

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

Project waters are **2-5** 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:

Identify flow route to TNW⁵: **Unnamed tributary flows into Spencer Branch on site which flows off site into Eagle Creek which flows into the Ashley River (TNW).**

Tributary stream order, if known:

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: **The tributary appears to be relative natural and the**

general area is forested in the 1954 aerial image as well as Google Earth aerial imagery from 1989-2015, although it is likely that some excavation has occurred considering the overall land disturbance that has occurred on the parcel.

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

Average width: **1-4 feet**

Average depth: **less than 1 foot**

Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

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

Presence of run/riffle/pool complexes. Explain: **None.**

Tributary geometry: **Relatively straight to meandering.**

Tributary gradient (approximate average slope): **1-2 %**

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: **Flow is generally related to precipitation events where it collects immediate surface runoff from the surrounding uplands in addition to water that has percolated into the shallow subsurface soil profile as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration. The primary source of flow comes from Wetland A (11.054 acres) overflow and Wetlands B, C, D, & E which contribute shallow subsurface flow to Wetland A.**

Other information on duration and volume:

Surface flow is: **Confined**. Characteristics: **Surface flow is confined to the tributary channel.**

Subsurface flow: **Yes**. Explain findings: **Subsurface flow is contributed from the hyporheic zone as a restrictive clay layer is present that promotes lateral drainage within the upper profile loamy soils as opposed to deep infiltration.**

Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
 OHWM⁶ (check all indicators that apply):

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.

- | | |
|---|---|
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input checked="" type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input checked="" type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input checked="" type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
- Discontinuous OHWM.⁷ Explain: .

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

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" 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 was clear when observed during the site visits.**

Identify specific pollutants, if known: **Unknown.**

(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: **The tributary provides support for water dependent species,**

including native fish communities that move within the relative reach and downstream between the tributary and the TNW and between the stream and its adjacent wetlands, amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.

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: **Wetland A = 11.054 acres, Wetland B = 0.407 acres, Wetland C = 0.159 acres, Wetland D = 0.158 acres, Wetland E = 0.217 acres.**

Wetland type. Explain: **Forested/emergent.**

Wetland quality. Explain: **Wetlands provide water quality and habitat functions.**

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

(b) General Flow Relationship with Non-TNW:

Wetland A:

Flow is: **Intermittent flow**. Explain: **Portions of Wetland A are open water features that contain standing water year round. This is evident on multiple years of aerial imagery. Flow would generally be in response to precipitation events and during the wet season when the wetland reaches storage capacity. Water would then be transported via discrete flow into sRPW A as they become hydrologically connected and continue until water levels within the wetland have receded.**

Surface flow is: **Discrete and confined**

Characteristics: **Surface flow is discrete within the wetland and confined when it reaches the channel of sRPW A.**

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

Dye (or other) test performed: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Wetlands B, C, D, E:

Flow is: **Intermittent flow**. Explain: **Flow for Wetlands B, C, D, and E would be in response to precipitation events and during the wet season when the soils within the wetlands become saturated and reach storage capacity. Water would then be transported to Wetland A via shallow subsurface flow as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration.**

Surface flow is: **Discrete**

Characteristics: **Surface flow is discrete within the wetlands but confined to the wetlands.**

Subsurface flow: **Yes**. Explain findings: **Water is transported to Wetland A via shallow subsurface flow when the soils within the wetlands become saturated and reach storage capacity as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration.**

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Wetland A is directly abutting and contiguous with sRPW A.

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Wetlands B, C, D, and E transport water to Wetland A via shallow subsurface flow when the soils within the wetlands become saturated and reach storage capacity as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration. Water would then be transported via discrete flow into sRPW A. During the wet season and in response to precipitation events the entire wetland/tributary system becomes hydrologically connected. This interconnectedness is readily visible on aerial and LiDAR imagery.

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to 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: **There was no apparent evidence of poor or degraded water quality in the wetlands during the site visit.**

Identify specific pollutants, if known: .

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

Riparian buffer. Characteristics (type, average width): .

Vegetation type/percent cover. Explain: **Forested/Emergent**.

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: **Wetlands A, B, C, D, and E provide support for wetland dependent species, including amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species.**

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

All wetland(s) being considered in the cumulative analysis: **5**

Approximately **(11.995)** 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 A (Y)	11.054		
Wetland B (N)	0.407		
Wetland C (N)	0.159		
Wetland D (N)	0.158		
Wetland E (N)	0.217		

Summarize overall biological, chemical and physical functions being performed: **Wetlands A, B, C, D, and E within the drainage area encompassed by the relevant reach tributary intercept runoff from the surrounding uplands. This water helps to concentrate and route detritus from the uplands, as well as that produced by the wetland vegetation itself, to the waters and TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to the RPW and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in moderately developed suburban to rural landscapes as well as those associated with railroads as railroad tracks run along the southern boundary of the project area. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Pollutants being contributed to these wetlands by surrounding uplands are reasonably concluded to include constituents typical of roadside runoff as well as those commonly associated with rail road tracks. Additional important chemical and physical water quality functions such as denitrification, carbon storage, and sediment and phosphorous retention are also provided by Wetlands A, B, C, D, and E.**

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:

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

According to the South Carolina Department of Health and Environmental Control, there is a high potential for growth in this watershed, which contains portions of the Towns of Summerville and Ladson and the Cities of Charleston and North Charleston. The west bank of the Ashley River (downstream TNW) contains numerous historic structures and plantations that are listed in the federal register including Middleton Place, Drayton Hall, Magnolia Gardens, Runnymede Plantation, and Charles Towne Landing State Park; all are important scenic, cultural, and tourism resources. In addition, several water quality issues have been identified within Eagle Creek which is one of the downstream receiving tributaries from the project area wetlands and the last tributary which project area water passes through before reaching the TNW (Ashley River). Aquatic life uses are not supported in Eagle Creek due to ammonia excursions. There is a significant increasing trend in total phosphorus concentration as well as pH and recreational uses are not supported due to fecal coliform bacteria excursions.

Wetlands A, B, C, D, and E within the drainage area encompassed by the relevant reach tributary intercept runoff from the surrounding uplands. This water helps to concentrate and route detritus from the uplands, as well as that produced by the wetland vegetation itself, to the waters and TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to the RPW and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in moderately developed suburban to rural landscapes as well as those associated with railroads as railroad tracks run along the southern boundary of the project area. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Pollutants being contributed to these wetlands by surrounding uplands are reasonably concluded to include constituents typical of roadside runoff as well as those commonly associated with rail road tracks. Additional important chemical and physical water quality functions such as denitrification, carbon storage, and sediment and phosphorous retention are also provided by Wetlands A, B, C, D, and E.

Considering the high potential for development in the area and existing water quality issues within the watershed, specifically along the flow path from the project area to the TNW, the functions of the wetlands in the project area play an important role relating to downstream water quality. Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this relevant reach, its similarly situated adjacent wetlands and the downstream TNW the Ashley River.

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: **Spencer Branch is depicted on the USGS Quadrangle Map as a blue line perennial stream. It is also depicted on the National Hydrography Dataset Map as having a perennial flow regime. Its drainage area is approximately 6 square miles and consists of numerous wetland systems that contribute to a sustained flow regime. During both the 4/6/15 and 10/23/15 site visits flow was observed as well as bed and bank and an ordinary high water mark.**
- 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: **Flow for sRPW A is generally related to precipitation events where it collects immediate surface runoff from the surrounding uplands in addition to water that has percolated into the shallow subsurface soil profile as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration. The primary source of flow comes from Wetland A overflow and Wetlands B, C, D, & E which contribute shallow subsurface flow to Wetland A. The drainage area is approximately 38 acres. Flow was observed during both the 4/6/15 and 10/23/15 site visits. It is reasonable to assume that during the summer months (dry season), this tributary dries up due to lack of flow from the wetland system that feeds it and does not have continuous year round perennial flow.**

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

- Tributary waters: **pRPW Tributary A (Spencer Branch) = 3,124 linear feet, sRPW A = 562 linear feet.**

- Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland A is contiguous with sRPW A.**

Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland A = 11.054 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 B = 0.407 acres, Wetland C = 0.159 acres, Wetland D = 0.158 acres, Wetland E = 0.217 acres.**

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

Explain:

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: linear feet width (ft).
- Other non-wetland waters: acres.

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.

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): **There are several ditches within the project area that were excavated wholly out of uplands and drain uplands. It was confirmed during site visits that they are surrounded by uplands and lack signs of relatively permanent flow. Based on a review of historical aerial imagery from 1954, it appears as if they are remnant agricultural ditches. Therefore the ditches have been determined to be non-jurisdictional and not subject to regulation under Section 404 of the Clean Water Act. They are depicted in the administrative record on Figure 6: Jurisdictional Feature Map as Non-JD A-G.**

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: **Wetland Delineation Submittal, Tidewater Environmental Services, Inc.**
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
 - Office concurs with determination.
- 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: **Ladson.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Web Soil Survey.**
- National wetlands inventory map(s). Cite name: **NWI Wetlands Mapper.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth 1989-2015, 1954 historical aerial photo submitted by consultant.**
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this relevant reach, its similarly situated adjacent wetlands and the downstream TNW Ashley River. Therefore, since Wetlands A, B, C, D and E are adjacent to the relevant reach tributary, they are jurisdictional and subject to regulation under Section 404 of the Clean Water Act.

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

Form 2 of 2

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): 1/21/16

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, JL Woode, SAC-2014-00979-2JU Form 2 of 2

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Charleston** City: **Ladson**
Center coordinates of site (lat/long in degree decimal format): Lat. 32.99254° **N**, Long. -80.11611° **W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Spencer Branch**

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

Name of watershed or Hydrologic Unit Code (HUC): 03050201-06

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: **1/9/15, 1/21/16**

Field Determination. Date(s): **4/6/15, 10/23/15**

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: **sRPW B = 959 linear feet.**

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM.

Elevation of established OHWM (if known): .

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 **Including potentially jurisdictional features that upon assessment are NOT waters or wetlands**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

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: **86,887 acres**

Drainage area: **90 acres**

Drainage area was approximated for the tributary that was evaluated as part of the Significant Nexus Determination performed for this Jurisdictional Determination. This area was drawn based on apparent flow pathways and drainage areas associated with the subject relevant reach using USGS quadrangle mapping, USGS National Hydrography Dataset mapping, aerial photography, and observations of connectivity and direction of flow made in the field. The intended value of the drainage area map is to document the full collection of wetlands adjacent to the relevant reach and not to assert that the mapping represents more than approximation with respect to actual area.

Average annual rainfall: **51.53 inches**

Average annual snowfall: **1 inch**

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.

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** 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:

Identify flow route to TNW⁵: **Unnamed tributary flows into Spencer Branch on site which flows off site into Eagle Creek which flows into the Ashley River (TNW).**

Tributary stream order, if known:

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

- Tributary is: Natural
 Artificial (man-made). Explain: **Based on a review of a historical aerial photo from 1954, it appears as if the tributary was being utilized as an agricultural drainage ditch at that time. It is unknown if the tributary was pre-existing and altered for agricultural drainage. Based on the large quantity of agricultural ditches visible in this aerial photo and the site position within the overall landscape, it is reasonable to presume that the general area contained aquatic resources.**
 Manipulated (man-altered). Explain:

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

Average width: **1-4 feet**
Average depth: **less than 1 foot**
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

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

Presence of run/riffle/pool complexes. Explain: **None.**

Tributary geometry: **Relatively straight to meandering.**

Tributary gradient (approximate average slope): **1-2 %**

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: **Flow is generally related to precipitation events where it collects immediate surface runoff from the surrounding uplands in addition to water that has percolated into the shallow subsurface soil profile as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration. The primary source of water appears to come from surface runoff associated with Route 78 as well as the neighboring industrial facility which has numerous ditches throughout the parcel that feed the tributary. The drainage area is approximately 90 acres. Flow was observed during both the 4/6/15 and 10/23/15 site visits. It is reasonable to assume that during the summer months (dry season), this tributary dries up due to lack of flow and does not have continuous year round perennial flow.**

Other information on duration and volume:

Surface flow is: **Confined.** Characteristics: **Surface flow is confined to the tributary channel.**

Subsurface flow: **Yes.** Explain findings: **Subsurface flow is contributed from the hyporheic zone as a restrictive clay layer is present that promotes lateral drainage within the upper profile loamy soils as opposed to deep infiltration.**

Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
 OHWM⁶ (check all indicators that apply):

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.

- | | |
|---|---|
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input checked="" type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input checked="" type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input checked="" type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
- Discontinuous OHWM.⁷ Explain: .

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

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" 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 was clear when observed during the site visits.**

Identify specific pollutants, if known: **Unknown.**

(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: **The tributary provides support for water dependent species,**

including native fish communities that move within the relative reach and downstream between the tributary and the TNW and between the stream and its adjacent wetlands, amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.

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

No adjacent wetlands were identified within the relative reach drainage area.

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: . acres

Wetland type. Explain: .

Wetland quality. Explain: .

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List.** Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List.** 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

⁷Ibid.

Project wetlands are **Pick List** river miles from TNW.
 Project waters are **Pick List** aerial (straight) miles from TNW.
 Flow is from: **Pick List**.
 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: .
 Identify specific pollutants, if known: .

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

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: .
- Habitat for:
 - Federally Listed species. Explain findings: .
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: .

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

All wetland(s) being considered in the cumulative analysis: **Pick List**
 Approximately () 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>

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

According to the South Carolina Department of Health and Environmental Control, there is a high potential for growth in this watershed, which contains portions of the Towns of Summerville and Ladson and the Cities of Charleston and North Charleston. The west bank of the Ashley River (downstream TNW) contains numerous historic structures and plantations that are listed in the federal register including Middleton Place, Drayton Hall, Magnolia Gardens, Runnymede Plantation, and Charles Towne Landing State Park; all are important scenic, cultural, and tourism resources. In addition, several water quality issues have been identified within Eagle Creek which is one of the downstream receiving tributaries from the project area and the last tributary which project area water passes through before reaching the TNW (Ashley River). Aquatic life uses are not supported in Eagle Creek due to ammonia excursions. There is a significant increasing trend in total phosphorus concentration as well as pH and recreational uses are not supported due to fecal coliform bacteria excursions.

The tributary within the relevant reach drainage area intercepts runoff from the surrounding uplands. This water helps to concentrate and route detritus from the uplands to the TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to the RPW and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in moderately developed suburban to rural landscapes as well as those associated with roadside runoff and industrial facilities. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods.

Considering the high potential for development in the area and existing water quality issues within the watershed, specifically along the flow path from the project area to the TNW, the functions of the tributary in the project area play an important role relating to downstream water quality. Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this relevant reach and the downstream TNW the Ashley River.

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:

 - 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: **Flow is generally related to precipitation events where it collects immediate surface runoff from the surrounding uplands in addition to water that has percolated into the shallow subsurface soil profile as a restrictive clay layer is present that promotes lateral drainage through more permeable loamy soils within the upper profile as opposed to deep infiltration. The primary source of water appears to come from surface runoff associated with Route 78 as well as the neighboring industrial facility which has numerous ditches throughout the parcel that feed the tributary. The drainage area is approximately 90 acres. Flow was observed during both the 4/6/15 and 10/23/15 site visits. It is reasonable to assume that during the summer months (dry season), this tributary dries up due to lack of flow and does not have continuous year round perennial flow.**

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

- Tributary waters: **sRPW B = 959 linear feet.**
 - Other non-wetland waters: acres.
- Identify type(s) of waters:

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: 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: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

Explain:

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: linear feet width (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters: .

- Wetlands: acres.

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.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Wetland Delineation Submittal, Tidewater Environmental Services, Inc.**
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
 - Office concurs with determination.
- 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: **Ladson.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Web Soil Survey.**
- National wetlands inventory map(s). Cite name: **NWI Wetlands Mapper.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth 1989-2015, 1954 historical aerial photo submitted by consultant.**
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between the relevant reach of sRPW B and the downstream TNW Ashley River. Since it has been determined that sRPW B is a relatively permanent water, it is jurisdictional by definition and subject to regulation under Section 404 of the Clean Water Act.