

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

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 25, 2015**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 2; CESAC-RD-NE 2015-00792-4S; Hoffmeyer Road Tract**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: South Carolina County/parish/borough: **Florence** City: **Florence**  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.198° N**, Long. **-79.828° W**.  
Universal Transverse Mercator:

Name of nearest waterbody: **Beaverdam Creek**

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

Name of watershed or Hydrologic Unit Code (HUC): **Middle Pee Dee HUC: 03040201\_09**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): **July 29, 2015**

**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):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

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

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: pRPW: **4,569.09** linear feet: **10** width (ft)

Wetlands: **27.312** acres.

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

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup> [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: **One non-jurisdictional linear conveyance is located on-site. This feature was first observed using Florence**

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

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

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

County LiDAR. It is depicted as a small linear feature that converges with the on-site sRPW (addressed in Form 2 of 2) within the delineated wetland. During a site visit conducted on July 29, 2015 this feature was observed and determined to be a non-jurisdictional linear conveyance. This feature did not have an OHWM and was filled with leaf litter and debris. It was determined to have been excavated out of uplands for the purpose of draining uplands.

### 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: **Great Pee Dee River.**

Summarize rationale supporting determination: **Report No. 11 of the 1977 U.S. Army Corps of Engineers Charleston District Navigability Study presently classifies the Great Pee Dee River as a "navigable water of the U.S." between its mouth at Winyah Bay (R.M. 0) near Georgetown, SC to Cheraw, SC (R.M. 165). The recommended practical limit of navigation is at Blewett Falls Dam (R.M. 188.2) Wetlands on-site about a pRPW (Beaverdam Creek) that flows into Jefferies Creek (a pRPW) which flows into the Great Pee Dee River at the Flornence and Marion County Line.**

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: **Pick List** ;  
Drainage area: **Pick List**  
Average annual rainfall: inches  
Average annual snowfall: inches

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

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

Project waters are **Pick List** river miles from TNW.

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

Project waters are **Pick List** river miles from RPW.  
 Project waters are **Pick List** aerial (straight) miles from TNW.  
 Project waters are **Pick List** aerial (straight) miles from RPW.  
 Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>:  
 Tributary stream order, if known:

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

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

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

Average width:        feet  
 Average depth:        feet  
 Average side slopes: **Pick List.**

**Primary tributary substrate composition (check all that apply):**

<input 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:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List.**

Tributary gradient (approximate average slope):        %

(c) **Flow:**

Tributary provides for: **Pick List**

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

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List.** Characteristics:

Subsurface flow: **Pick List.** Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	
<input type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	
<input type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of litter and debris
<input type="checkbox"/> changes in the character of soil	<input type="checkbox"/> destruction of terrestrial vegetation
<input type="checkbox"/> shelving	<input type="checkbox"/> the presence of wrack line
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> scour
<input type="checkbox"/> sediment deposition	<input type="checkbox"/> multiple observed or predicted flow events
<input type="checkbox"/> water staining	<input type="checkbox"/> abrupt change in plant community
<input type="checkbox"/> other (list):	
<input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain:	

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

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

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

<sup>7</sup>Ibid.

**(iii) Chemical Characteristics:**

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

Explain: .

Identify specific pollutants, if known: .

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

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

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:            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

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:**  
\_\_\_\_\_

**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 tributary was determined to be a RPW with perennial flow during a site visit conducted on** \_\_\_\_\_

July 29, 2015 and by review of aerial photographs, Florence County LiDAR, and USGS topographic maps. Aerial photos depict a well defined channel with uninterrupted flow into Jefferies Creek and the USGS topographic maps depict a named solid blue line feature (Beaverdam Creek) which is the symbol for perennial flow. Florence County LiDAR depicts low elevations and a defined channel. Geomorphic indicators observed in the field include a well defined channel with continuous bed and bank located within a natural valley, natural sinuosity and depositional bars. Hydrologic indicators include a firm sandy bottom clear of leaf litter and debris, and organic drift lines. Based on the previously mentioned evidence, this perennial RPW was determined to have flow at least 90% of the year under normal conditions. The wetlands evaluated in this determination a part of a contiguous wetland that continues off-site and abuts the perennial RPW both on-site and off-site.

- 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: **Documented on Basis Form 2 of 2.**

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

Tributary waters: **4,565.09** linear feet **10** width (ft).

Other non-wetland waters:            acres.

Identify type(s) of waters:            .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

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

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

Tributary waters:            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: **The jurisdictional wetland on-site was determined to be part of a contiguous wetland system that directly abuts Beaverdam Creek (pRPW) on-site during a site visit conducted on July 29, 2015 and by review of Aerial photographs, USGS topographic maps, Florence County LiDAR maps, NWIs, Florence County wetland maps, and Florence County Soil survey information. Based on the above mention resources there is no observable natural or man-made barrier that would obstruct a biological, chemical, and or physical connection between the wetlands on-site and the pRPW .**
- 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: **The wetlands addressed on this form also abut a portion of the sRPW addressed on Basis Form 2 of 2.**

Provide acreage estimates for jurisdictional wetlands in the review area: **27.312** 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.<sup>9</sup>**

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

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

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

- Tributary waters: 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): **One non-jurisdictional linear conveyance is located on-site.**

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: **The project area is depicted on a copy of a survey plat submitted by S&ME which was prepared by Ervin Engineering Company, dated March 24, 2015, and titled "WETLANDS SURVEY / FOR / MARION D. LUCAS III & ELIZA RUTH / A WETLAND SURVEY OF FLORENCE COUNTY TAX PARCEL 099-01-021 CONTAINING A TOTAL OF 121.785 ACRES."**

- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study: **Report No. 11 of the U.S. Army Corps of Engineers, Charleston District 1977 Navigability Study..**
- U.S. Geological Survey Hydrologic Atlas: .

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.



- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **Florence West Quad: The USGS topographic survey information within Florence West Quad depicts the project area as a partially forested lot with a steep decrease in elevation from east to west. The western project boundary is a named blue line feature (Beaverdam Creek) that was determined to be a pRPW. A solid blue line feature is depicted extending from Beaver dam creek into the project area. During a site visit conducted on July 29, 2015 this feature was determined to be a seasonal RPW and is documented on Basis Form 2 of 2 of this determination..**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Florence County soil survey sheet 9: Florence County soil survey information depicts the project area as being comprised of Norfolk, Varina, Lakeland, Wagram and Wehadkee and Johnston soils. Norfolk loamy sand is a well drained partially hydric soil. Lakeland sand is an excessively drained non-hydric soil. Varina loamy sand is a well drained non-hydric soil. Wagram sand is a well drained non-hydric soil. Wehadkee and Johnston soils are a fine sandy loam that is poorly drained and all hydric..**
- National wetlands inventory map(s). Cite name: **U11, U21, PSS1Gb and PFO1/2Cb; The NWIs depict the pRPW that runs along the western project boundary as palustine shrubland and forest that is intermittently exposed and that supports beaver activity. The delineated wetland is depicted as saturated palustrine forest. The remaining portions of the project area including the non-jurisdictional linear conveyance and a small portion of land that the sRPW crosses are mapped uplands .**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **Florence County Aerial Index 99:11227:69 and SCDNR 2006. Aerial photographs depict strong wetland signatures along the western project boundary. .**  
or  Other (Name & Date): **Photos taken on site submitted by the agent dated 3/19/2015 and photos taken on site by the Corps dated July 29, 2015.**
- 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: This form addresses a 121.785 acre tract that contains 27.312 acres of jurisdictional wetlands and 4,565.09 linear feet of a perennial RPW . The project area also contains 395 linear feet of a sRPW that is addressed on Basis Form 2 of 2 of this determination. The pRPW is located on-site along the western project boundary. Jurisdictional wetlands on site are part of a contiguous wetland run and abut the perennial RPW that flows into Jefferies Creek. Jefferies Creek drains into the Great Pee Dee River a TNW.**

**During a site visit conducted on July 29, 2015 soils within the boundaries of the delineated wetland were found to be saturated and to contain oxidized rhizospheres along living root channels. Obligate and Fac Wet vegetation was abundant in the herbaceous layer and soils met an F3 indicator (depleted matrix) as outlined in the "Field Indicators of Hydric Soils in the United States" guide, version 7.0, 2010,. Based on NRCs WETS data climatic conditions at the time were within normal range.**

**Limits of jurisdiction were established by the parameters set forth in the 1987 Wetland Delineation Manual and the 2010 Coastal Plain Supplement. The tributary that runs along the western project boundary was observed on July 29, 2015 and was determined to be a RPW with perennial flow. Further review of aerial photographs, Florence County LiDAR, soil survey information and USGS topographic maps concurred with this determination. Aerial photos depict a well defined channel with uninterrupted flow into Jefferies Creek and the USGS topographic maps depict a named solid blue line feature (Beaverdam Creek) which is the symbol for perennial flow. Florence County LiDAR depicts low elevations and a defined channel. Based on the previously mentioned evidence, this perennial RPW was determined to have flow at least 90% of the year under normal conditions. The wetlands evaluated in this determination are contiguous and abut the perennial RPW both on-site.**

**On the USGS topographic map a solid blue line feature is depicted extending from Beaver dam creek into the project area. During a site visit conducted on July 29, 2015 this feature was determined to be a seasonal RPW and is discussed further on Basis Form 2 of 2.**

**One non-jurisdictional linear conveyance is located on-site. This feature was first observed using Florence County LiDAR. It is depicted as a small linear feature that converges with the on-site sRPW (addressed in Form 2 of 2) within the delineated wetland. During a site visit conducted on July 29, 2015 this feature was observed and determined to be a non-jurisdictional linear conveyance. This feature did not have an OHWM and was filled with leaf litter and debris. It was determined to have been excavated out of uplands for the purpose of draining uplands**

Seasonal RPW documented on Basis Form 2 of 2.

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

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 2 of 2; CESAC-RD-NE 2015-00792-4S; Hoffmeyer Road Tract**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: South Carolina County/parish/borough: **Florence** City: **Florence**  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.198° N**, Long. **-79.828° W**.  
Universal Transverse Mercator:

Name of nearest waterbody: **Beaverdam Creek**

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

Name of watershed or Hydrologic Unit Code (HUC): **Middle Pee Dee HUC: 03040201\_09**

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: **June 30, 2015**

Field Determination. Date(s): **July 29, 2015**

**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):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: pRPW: **395** linear feet: **5** width (ft)

Wetlands: **A portion of the jurisdictional wetlands onsite about the sRPW addressed on this form, however they also about the pRPW addressed in Basis Form 1 of 2 of this determination and therefore are discussed in detail on Basis Form 1 of 2.**

**c. Limits (boundaries) of jurisdiction based on: **Established by OHWM, Pick List, Pick List****

Elevation of established OHWM (if known): .

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

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

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> 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: **One non-jurisdictional linear conveyance is located on-site and is addressed in Basis Form 1 of 2 of this determination.**

### 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: **Great Pee Dee River.**

Summarize rationale supporting determination: **Report No. 11 of the 1977 U.S. Army Corps of Engineers Charleston District Navigability Study presently classifies the Great Pee Dee River as a "navigable water of the U.S." between its mouth at Winyah Bay (R.M. 0) near Georgetown, SC to Cheraw, SC (R.M. 165). The recommended practical limit of navigation is at Blewett Falls Dam (R.M. 188.2). The sRPW onsite flows into Beaverdam Creek (a pRPW) that flows into Jefferies Creek (a pRPW) which flows into the Great Pee Dee River at the Flornence and Marion County Line.**

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: **137,115 acres** ; HUC: **03040201\_09**

Drainage area: **56.65 acres**

Average annual rainfall: **44.76 inches**

Average annual snowfall: **2.6 inches**

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **2** tributaries before entering TNW.

Project waters are **20-25** river miles from TNW.

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

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

Project waters are **10-15** 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: **Project waters do not cross or serve as state boundaries.**

Identify flow route to TNW<sup>5</sup>: **The sRPW onsite flows into Beaverdam Creek (a pRPW) that flows into Jefferies Creek (a pRPW) which flows into the Great Pee Dee River (a TNW).**

Tributary stream order, if known: **Tributary is a 1<sup>st</sup> order stream.**

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

Tributary is:  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: .

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

Average width: **5** feet

Average depth: **5** feet

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

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: Tributaries in this watershed are typically low gradient, low velocity and therefore do not experience high levels of erosion and would be considered stable.

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Relatively straight. The tributary is situated in a naturally lowlying drainage area.**

Tributary gradient (approximate average slope): **3 %**

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: **Channel flow for at least 3 months a year during seasonal high water table and after significant precipitation events.**

Other information on duration and volume: **The sRPW receives overland sheet flow, based on evidence such as drainage patterns, observed during a site visit conducted on July 29, 2015 and was determined to be recharged by groundwater during seasonal high water table.**

Surface flow is: **Discrete and confined.** Characteristics: **Flow was determined to be confined within the bed and banks of the onsite tributary based on evidence of OHWM observed during a site visit conducted on July 29, 2015.**

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

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (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.<sup>7</sup> Explain: .

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

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

<sup>7</sup>Ibid.

- |  |  |
|--|--|
| <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: **Within the tributary water would be clear with possible turbidity due to suspended solids. No discoloration or oily residue was observed during a site visit conducted on July 29, 2015. Downstream reaches of the sRPW are described as a black water system with naturally low ph and dissolved oxygen conditions that fully support aquatic life and recreation. Land use in this watershed consist of approxiamtly 36.9% agrgricultural land, 21.6% forested land, 22.4% forested wetland, 15.4% urban land, 3.1% scrub-shrub, 0.4% water, 0.3% non-forested wetlands and 0.3% water. According to the SCDHEC website there is high potential for growth in this watershed.**

Identify specific pollutants, if known: **The drainage area for the sRPW contains agricultural feilds, therefore the potential exist for herbicides and other pollutants, such as fertilizers to enter the on-site sRPW. This type of land use requires regular manipulation of the soil, which creates increased amounts of suspended sediments within downstream tributaries.**

(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: **According to "Connectivity of Streams and Wetlands to**

**Downstream Waters: A Review and Synthesis of the Scientific Evidence" prepared by the Office of Research and Development U.S. Environmental Protection Agency, for organisms capable of significant upstream movement, headwater streams, including ephemeral and intermittent streams, can increase both the amount and quality of habitat available to those organisms. Many organisms require different habitats for different resources (e.g., food, spawning habitat, overwintering habitat), and thus move throughout the river network—both longitudinally and laterally—over their life cycles. For example, headwater streams can provide refuge habitat under adverse conditions, enabling organisms to persist and recolonize downstream areas once adverse conditions have abated. Headwater streams also provide food resources to downstream waters: as Progar and Moldenke (2002) state, "...headwater streams are the vertex for a network of trophic arteries flowing from the forest upland to the ocean." Headwater streams and small seasonal RPWs provide habitat for diverse and abundant stream invertebrates and serve as collection areas for terrestrial and riparian invertebrates that fall into them. These aquatic and terrestrial invertebrates can be transported downstream with water flow and ultimately serve as food resources for downstream organisms. Many fish feed on drifting insects, and these organisms can also settle out of the water column and become part of the local benthic invertebrate assemblage in downstream waters. Drift, however, has been shown to increase invertebrate mortality significantly, suggesting that most drifting organisms are exported downstream in the suspended detrital load. The downstream drift of stream invertebrates and the contribution of terrestrial and riparian invertebrates to overall drift have been well documented.**

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

The jurisdictional wetlands onsite about a pRPW and are addressed in Basis Form 1 of 2. Although the on-site wetlands also abut the sRPW addressed in this form due to their documentation on Basis Form 1 of 2, as abutting a pRPW they are not included in this significant nexus determination.

(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

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:** The sRPW that is assessed in this form is performing functions consistent with the following: A variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. The sRPW is essential in providing organic carbons in the form of primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemically, the sRPW is providing the important function of removal of excess nutrients and sediments into the downstream TNW. These pollutants, which are contributed to by runoff from surrounding uplands are prevented from being discharged downstream due to suspended sediments and other pollutants being retained within the sRPW. The low velocity of and gradient of the sRPW contributes to the removal of pollutants because the suspended pollutants have time to settle out of the water. This reduces nitrogen and phosphorous loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the sRPW is performing flow maintenance functions, including retaining runoff inflow and storing rain water, temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes and reducing the frequency of overbank events which flood adjacent properties. Increased water velocity also increases the amount of sediments and other



**pollutants in the TNW. Based on the functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Great Pee Dee River, it has been determined that there is a significant nexus between the relevant reach of the tributary and the downstream TNW.**

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

**1. TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: 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: **Addressed on Basis Form 1 of 2.**
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: **The RPW addressed in this document was determined to be a seasonal RPW based on a site visit conducted on July 29, 2015. While the channel contained some leaf litter and debris, the sRPW had an obvious bed and bank and continuous OHWM. The feature is situated in a naturally low lying drainage area and drainage patterns were observed in uplands leading to the sRPW.**

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

- Tributary waters: **395** linear feet **5** width (ft).  
 Other non-wetland waters: acres.

Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

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

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

- Tributary waters: 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: **Addressed on Basis Form 1 of 2.**
- 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: **The jurisdictional onsite wetlands abut the sRPW documented in this form, however they also abut an on-site pRPW discussed on Basis Form 1 of 2. The wetlands onsite are discussed in detail on Basis Form 1 of 2 of this determination.**

Provide acreage estimates for jurisdictional wetlands in the review area: **27.312** 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.

<sup>8</sup>See Footnote # 3.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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

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

**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):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

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

- Tributary waters: 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): **One non-jurisdictional linear conveyance is located on-site and is documented on Basis**

**Form 1 of 2 .**

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: **The project area is depicted on a copy of a survey plat submitted by S&ME which was prepared by Ervin Engineering Company, dated March 24, 2015, and titled “WETLANDS SURVEY / FOR / MARION D. LUCAS III & ELIZA RUTH / A WETLAND SURVEY OF FLORENCE COUNTY TAX PARCEL 099-01-021 CONTAINING A TOTAL OF 121.785 ACRES.”**

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

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study: **Report No. 11 of the U.S. Army Corps of Engineers, Charleston District 1977 Navigability 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: **Florence West Quad: The USGS topographic survey information within Florence West Quad depicts the project area as a partially forested lot with a steep decrease in elevation from east to west. The western project boundary is a named blue line feature (Beaverdam Creek) that was determined to be a pRPW. A solid blue line feature is depicted extending from Beaver dam creek into the project area. During a site vist conducted on July 29, 2015 this feature was determined to be a seasonal RPW.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Florence County soil survey sheet 9: Florence County soil survey information depicts the project area as being comprised of Norfolk, Varina, Lakeland, Wagram and Wehadkee and Johnston soils. Norfolk loamy sand is a well drained partially hydric soil. Lakeland sand is an excessively drained non-hydric soil. Varina loamy sand is a well drained non-hydric soil. Wagram sand is a well drained non-hyric soil. Wehadkee and Johnston soils are a fine sandy loam that is poorly drained and all hydric..**
- National wetlands inventory map(s). Cite name: **U11, U21, PSS1Gb and PFO1/2Cb; The NWIs depict the pRPW that runs along the western project boundary as palustine shrub land and forest that is intermittently exposed and that supports beaver activity. The delineated wetland is depicted as saturated palustrine forest. The remaining portions of the project area including the non-jurisdictional linear conveyance and a small portion of land that the sRPW crosses are mapped uplands .**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **Florence County Aerial Index 99:11227:69 and SCDNR 2006. Aerial photographs depict strong wetland signatures along the western project boundary and a shaded linear feature can be seen where the sRPW is located. .**
- or  Other (Name & Date): **Photos taken on site submitted by the agent dated 3/19/2015 and photos taken on site by the Corps dated July 29, 2015.**
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature: **Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence - A comprehensive report prepared by the Office of Research and Development US EPA- This report contains all of the relevant citations for the supporting scientific literure contained in this document..**
- Other information (please specify): **NRCS WETS data .**

**B. ADDITIONAL COMMENTS TO SUPPORT JD: This form addresses a 121.785 acre tract that contains 395 linear feet of a sRPW that was determined to have a significant nexus to a downstream TNW. The project area also contains 27.312 acres of jurisdictional wetlands and 4,565.09 linear feet of a perennial RPW that are addressed on Basis Form 1of 2 of this determination. The RPW addressed in this document was determined to be a seasonal RPW based on a site visit conducted on July 29, 2015. While the channel was choked with leaf litter and debris during a period of rainfall within the normal rang, the sRPW had an obvious bed and bank and contiuous OHWM. The feature is situated in a naturally low lying drainage area and drainage patterns were obsereved in uplands leading to the sRPW. The sRPW drains into Beaverdam Creek a pRPW located on-site along the western project boundary. The perennial RPW that flows into Jefferies Creek. Jefferies Creek drains into the Great Pee Dee River a TNW.**

Jurisdictional Wetlands and Perennial RPW documented on Basis Form 2 of 2.