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): December 18, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 1; SAC 2017-01467; Shaftsbury Green

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Horry** City: **Conway**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.9065°** **N**, Long. **-78.9061°** **W**.
Universal Transverse Mercator: **NAD 83**
Name of nearest waterbody: **Camp Swamp**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Waccamaw River**
Name of watershed or Hydrologic Unit Code (HUC): **Waccamaw River HUC: 03040206_08**
☒ 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): **November 7, 2017**

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 waters[2] (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: linear feet: width (ft) and/or acres.
      Wetlands: **0.26** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**, **Pick List**, **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3] **[Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]**
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

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: **Kingston Lake**.

Summarize rationale supporting determination: **Lower reaches of Kingston Lake are subject to the ebb and flow of th tide.**

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[4] 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: **83,444 acres ;**
Drainage area: **866 acres**
Average annual rainfall: **41** inches
Average annual snowfall: **0-1** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.
☐ Tributary flows through tributaries before entering TNW.

Project waters are **10-15** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **1 (or less)** 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[5]: **The pRPW, Camp Swamp, flows directly into the Kingston Lake, a TNW**.
Tributary stream order, if known: **The tributary is a 1st order stream.**.

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

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

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

The pRPW was not observed in the field during the site visit conducted on 11/7/17. The following observations were based on a review of desk top resources including: USGS topo maps, aerial photographs, LiDAR, and NWIS.

Tributary properties with respect to top of bank (estimate):
Average width: **20-30** feet
Average depth: 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: **Meandering. Based on a review of USGS topo maps and aerial photography the pRPW is situated in a naturally low lying drainage area and has sinuosity.**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **Based on USGS topographic survey information, the National Wetlands Inventory and aerial photographs, the perennial RPW is situated in a naturally low lying area and supports an approximately 600 foot wide riparian corridor. The tributary follows a declining gradient and flows directly into the Kingston Lake. The pRPW is depicted in USGS topogrpahic maps as a named blue line feature (a solid blue line is the symbol for perennial flow) and is clearly defined on LiDAR maps and in aerial photographs. The relevant reach of this pRPW receives run off from approximately 866 acres**.
Other information on duration and volume: **The pRPW receives flow from surrounding wetlands and overland sheet flow. This tributary was determined to have flow at least 90% of the year under normal conditions**.

Surface flow is: **Discrete and confined**. Characteristics: **Based on a review of the best available desktop resources flow was determined to be confined within the bed and banks of the tributary.**.

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

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;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

[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.
[7]Ibid.

(iii) Chemical Characteristics:

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

Explain: **According to the SCDHEC watershed assement, downstream reaches in this watershed do not support aquatic life due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Additionally, recreational uses are not supported due to fecal coliform bacteria excursions ..**

Identify specific pollutants, if known: **The review area is located within a relatively rural watershed. However, this watershed is comprised of approximatly 28% agricultural land and 9.9% urban land. The potential exist for herbicides and other pollutants, such as fertilizers to enter the pRPW. Agricultural land use requires regular manipulation of the soil, which creates increased amounts of suspended sediments within downstream tributaries. Run off from highways and directly from urban areas provides the potential for increased fertilizers and fecal coliform as well as oils and other chemicals used in vehicles and on lawns. These types of pollutants have the potential to effect dissolved oxygen levels in a system already documented as having a decreasing trend in dissolved oxygen levels and high levels of fecal coliform bacteria.**.

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

☒ Riparian corridor. Characteristics (type, average width): **Based on a review of aerial photographs the pRPW supports an approximately 600' wide riparian corridor. This riparian zone contributes to the overall health of the aquatic system by filtering out pollutants, providing essential habitat, slowing flood waters and preventing erosion**.

☐ 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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: **0.26** acres

Wetland type. Explain: **Palustrine Forested**.

Wetland quality. Explain: **Wetlands on site are fully functional wetlands providing functions such as enhancing wildlife diversity, acting as a catch basins filtering sediment and pollution from the surrounding uplands, supporting the downstream food web, and providing nutrient fixation, flood attenuation, and flow maintenance functions.**

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Project wetlands cross or serve as state boundaries. Explain: **The project wetland does not cross or serve as state boundaries**.

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: **Flow from wetlands into the pRPW (Camp Swamp) is via a non-jurisdictional ditch.** .

Surface flow is**: Discrete and confined**

Characteristics: **Flow from onsite wetlands into the pRPW (camp swamp) is through a man-made drainage ditch.** .

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: **Flow from wetalnds into the pRPW (Camp Swamp) is through a system of man-made drainage ditch.**.

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **10-15** river miles from TNW.

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

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

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **The wetland within the project area is a fully functional forested wetland bounded on three sides by residential development. A high water table and saturation was observed. No oily film or discoloration was observed**.

Identify specific pollutants, if known: **The review area is located within a relatively undeveloped watershed. Land use in this watershed consist of approximately 36.2% forested wetland, 23.5% forested land, 28% agricultural, 9.9% urban land, 1.9% nonforested wetland, 0.4% water, and 0.1% barren land. According to the SCDHEC website there is low to moderate potential for growth in this watershed. However, this watershed is comprised of approximately 28% agricultural and 9.9% urban land. The potential exist for herbicides and other pollutants, such as fertilizers to enter the pRPW. Agricultural land use requires regular manipulation of the soil, which creates increased amounts of suspended sediments within downstream tributaries. Run off from highways and directly from urban areas provides the potential for increased fertilizers and fecal coliform as well as oils and other chemicals used in vehicles and on lawns. These types of pollutants have the potential to effect dissolved oxygen levels, turbitity, and total nitrogen in a system documented as having a significant decreasing trends in dissolved oxygen concentration and increasing trends in fecal coliform levels.**.

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

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

☒ Vegetation type/percent cover. Explain: **Vegetation within the wetland consists of predominantly Fac and Fac Wet**.

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **This wetland system enhances wildlife diversity through timber type changes and the transition between upland and aquatic systems.**.

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

All wetland(s) being considered in the cumulative analysis: **12**

Approximately (**240**) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Y	**130**		
N	**24**		
N	**1**		
N	**5**		
N	**13**		
N	**7**		
N	**3.3**		
N	**1.6**		
N	**22**		
N	**1.7**		
N	**22**		
N	**9.35**		

Summarize overall biological, chemical and physical functions being performed: **The similarly situated wetlands contribute vital biological, chemical, and physical functions to the downstream TNW. This wetland system enhances wildlife diversity, acts as catch basins filtering sediment and pollution from the surrounding uplands, supports the downstream food web, and provides nutrient fixation, flood attenuation, and flow maintenacne functions. (Wetlands adjacent to the tributary were determined by using a combination of NWI maps and the wetlands delineated as part of this determination)**.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The pRPW that is assesed in this form, along with all similarly situated adjacent freshwater wetlands are collectively performing functions consistent with the following: Biologically, wetlands adjacent to the pRPW include depressional wetlands. As such 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. These wetlands and the adjacent pRPW are essential in providing organic carbons in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemically, the pRPW and adjacent wetlands are providing the important collective functions of removal of excess nutrients 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 wetlands. The low velocity of and gradient of the pRPW also contribute 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 pRPW and adjacent wetlands are collectively 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 collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of Kingston Lake, it has been determined that there is a significant nexus between the relevant reach of the tributary and all adjacent wetlands to the downstream TNW**.

Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:
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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: **Based on USGS topographic survey information, the National Wetlands Inventory and aerial photographs, the perennial RPW is situated in a naturally low lying area and supports an approximately 600 foot wide riparian corridor. The tributary follows a declining gradient and flows directly into the Kingston Lake. The pRPW is depicted in USGS topogrpahic maps as a named blue line feature (a solid blue line is the symbol for perennial flow) and is clearly defined on LiDAR maps and in aerial photographs. The relevant reach of this pRPW receives run off from approximately 866 acres**.

   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

     Provide estimates for jurisdictional waters in the review area (check all that apply):
     - ☐ Tributary waters: linear feet width (ft).
     - ☐ Other non-wetland waters: acres.
       Identify type(s) of waters: .

3. **Non-RPWs[8] 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.

[8]See Footnote # 3.

☐ 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.02** 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.

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):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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

☐ 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 sketch , titled "SAC 2017-01467 / Shaftsbury Green / Horry County, SC" and dated December 11, 2017.** .
☒ 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. 7 of the U.S. Army Corps of Engineers 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: **Shell Quad; USGS topographic survey information within Shell Quad depicts the project area as forested uplands that do not contain any blue line features.**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Horry County Soil Survey Sheets 53; According to the Soil Survey of Horry County the site depicted as being comprised of a combination of Echaw Sand and Ogeechee loamy fine sand. Ogeechee loamy fine sand is a poorly drained 100% hydric soil. Echaw is a moderatly well drained non-hydric soil that contains hydric inclusions**.
☒ National wetlands inventory map(s). Cite name: **PFO1/4B; Portions of the onsite wetland are mapped as saturated palustine forest.** .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Horry County Aerial Index 99:11222:184, Google Earth (33.907, 78.9068) 2017, 2009, and 2011 and SCDNR 2006. Aerial photographs depict several undeveloped residential lots abutting a forested area to the east.**.
or ☒ Other (Name & Date): **Site photos submitted by the agent date Sept. 19, 2017**.
☒ 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" prepared by the Office of Research and Development U.S. Environmental Protection Agency**.
☒ Other information (please specify): **Horry County LiDAR with Hillshade Overlay**.

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form addresses a 11.40 acre site that contains approximately 0.26 acres of jurisdictional freshwater wetlands determined to be adjacent to camp swamp via a drainage ditch.

Wetland boundaries were verified during the site visit conducted on November 7, 2017, based on the criteria set forth by the 1987 Wetland Delineation Manual. These wetlands were determined to be jurisdictional based on a hydrological connection, provided by ditch into the pRPW located down gradient. Wetlands addressed in this form are determined to have a significant nexus to the downstream TNW, as discussed in Section IIIC above.

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