

**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):** January 2, 2019

**B. DISTRICT OFFICE, FILE NUMBER, FILE NAME:** JD Form 1 of 1; CESAC-RDE; SAC-2018-01858; Bishop Solar II

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

State: **South Carolina** County/parish/borough: **Lee County** City: **Bishopville**

Center coordinates of site (lat/long in degree decimal format): Lat. **34.2079° N**, Long. **-80.2207° W**.

Universal Transverse Mercator: **17S 571788 3785308**

Name of nearest waterbody: **Lynches River (TNW)**

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

Name of watershed or Hydrologic Unit Code (HUC): **03040202\_05**

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):

**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: **2,266** linear feet: **4** width (ft) and/or acres.

Wetlands: 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: **On-site is a 6.6 acre excavated pond for the sole function of storm-water retention. The pond is excavated out**

<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.

of NWI defined uplands (U21), does not have any means of outflow, does not convey water to any jurisdictional aquatic features, and does not feature wetlands within or adjacent to its banks. In addition to the pond, ~6,014 linear feet in excavated ditching was assessed for potential jurisdictional flow and adjacent wetlands, of which ~3,748 linear feet of ditching was found to not meet the criteria of a relatively permanent water (RPW) nor wetlands, while the remaining 2,266 feet did meet the criteria of a perennial relatively permanent water (pRPW). The 3,748 in. ft. not meeting the criteria of a RPW was broken up within seven individual segments of the following approximate lengths: 1,428 ft., 1,342 ft., 455 ft., 240 ft., 155 ft., 78 ft., and 50 ft. The seven ditch segments were assessed for the characteristics of flow of a relatively permanent water, and were found to not contain/convey more than occasional flow from short-lived but occasionally strong rain events that are typical of the piedmont region. These ditches serve as a storm-water conveyance system to encourage storm-water to flow away from the existing agricultural fields. These ditches are excavated out of NWI labeled uplands (U21 – Upland Cropland/Pasture) that lack the necessary hydrology to support wetlands. These features convey only occasional flow due to seasonal rain, do not feature adjacent wetlands, and do not meet the criteria of a tributary of Waters of the United States, per CFR 328.3 paragraphs (a)(1)-(4) and the Rapanos-Carabell Guidance dated December 3, 2008. Therefore, these features are non-jurisdictional, per the Corps authority. Furthermore, all but 138 in. ft. (in vicinity of Manton Road) of the on-site ditching on site were assessed in a previous JD (SAC-2015-01070), these features were found to have the same jurisdictional call as the 2015 call, however the length of these features has changed slightly due to project boundary alterations..

### 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: **Lynches River.**

Summarize rationale supporting determination: **According to the USACE Navigability Study Report No. 10, the Lynches River's recommended limit of navigability is located at River Mile (RM) 114 and the Historic Limit of Navigability is located at RM 121. The portion of the Lynches River within the project site is located approximately at RM 97.**

##### 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:

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

**SND / watershed information referenced from previous JD (SAC-2018-01070)**

Watershed size: **126,827 acres** ; HUC **03040202\_05 (Middle Lynches River)**

Drainage area: **234 acres**

Average annual rainfall: **41.82-48.73 inches**

Average annual snowfall: **2.0 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 **1 (or less)** 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: .

Identify flow route to TNW<sup>5</sup>: **The pRPW leaves the project site at the northwestern terminus of the boundary, at ~34.2116, -80.2232, there the flow continues off-site to the northeast-east within excavated ditches for ~0.40 miles and eventually drains directly into ~0.30 mile-wide wetland that directly abuts the Lynches River.**

Tributary stream order, if known: .

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

- Tributary is:  Natural  
 Artificial (man-made). Explain: **This tributary is excavated out of uplands for the maintenance of the agricultural fields they are within.**  
 Manipulated (man-altered). Explain: .

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

Average width: **5 feet**

Average depth: **3 feet**

Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **The tributary is relatively stable with no erosion or sloughing banks observed.**

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

Tributary geometry: **Meandering. A review of the topographic map and aeriels reveals that the majority of this tributary flows through forested wetlands.**

Tributary gradient (approximate average slope): **0-1 %**

**(c) Flow:**

Tributary provides for: **Seasonal flow**

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

Describe flow regime: **This tributary (pRPW) receives 41-48 inches/year of primarily seasonal rainwater which reaches the tributary via unconfined surface and groundwater flow from adjacent uplands and wetlands, as well as confined and discrete flow from upstream non-jurisdictional ditches located within on-site uplands and adjacent off-site farm fields.**

Other information on duration and volume: .

Surface flow is: **Discrete.** Characteristics: **Under normal conditions surface flow is restricted within the banks the tributary.**

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):

<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.

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

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

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

**(iii) Chemical Characteristics:**

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

Explain: **The tributary has clear flowing water presently. Land use in this watershed is comprised of approximately 40% agricultural land, 30% forested wetland, 22% forested land, and 5% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, and water. The SCDHEC Watersheds website states that there is a low to moderate potential for growth in this watershed, which includes portions of the City of Bishopville and the Towns of Lynchburg and Cartersville.**

Identify specific pollutants, if known: **A large portion of the Lynches watershed is comprised of agricultural land, therefore the potential exists for herbicides and pesticides, as well as runoff from land disturbing activities such as plowing and harvesting, to enter the tributary. Because this land use requires regular manipulation of the soils, agricultural activities can create an increase in suspended sediments in the downstream tributaries. According to the SCDHEC website, the downstream monitoring station on the Lynches River (PD-364) states that aquatic life uses are not supported due to pH excursions. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are supported. A fish consumption advisory has been issued for the Lynches River from Hwy 15 to the Great Pee Dee River due to the presence of mercury.**

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

- Riparian corridor. Characteristics (type, average width): **This 1<sup>st</sup> order pRPW supports a riparian zone several hundred linear feet wide that contributes to the health of the aquatic system by filtering out pollutants and preventing erosion.**
- Wetland fringe. Characteristics: **The majority of this tributary is located within a wetland system that comprises the floodplain of the Lynches River.**

Habitat for:

- Federally Listed species. Explain findings: .
- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .
- Aquatic/wildlife diversity. Explain findings: **This 1<sup>st</sup> order tributary provides important aquatic habitat for**

**wildlife and a travel corridor for aquatic fauna.**

**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: .

<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.

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:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Grey vertical bar

Grey vertical bar

Grey vertical bar

Grey vertical bar

Summarize overall biological, chemical and physical functions being performed: **The seasonal RPW is providing important biological, chemical, and physical functions. According to the SCDHEC Watersheds website, land use in this watershed is comprised of approximately 40% agricultural land, 30% forested wetland, 22% forested land, and 5% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, and water. The SCDHEC Watersheds website states that there is a low to moderate potential for growth in this watershed, which includes portions of the City of Bishopville and the Towns of Lynchburg and Cartersville. Due to the predominance of agricultural land use in this watershed and the presence of a landfill within the drainage area, herbicides and other pollutants are likely to enter the tributary and downstream TNW. The unnamed 1st order tributary acts as a catch basin to help filter out pollutants from the neighboring uplands and to hold runoff prior to it flowing downstream into the TNW. Besides the obvious functions of stormwater attenuation, absorption, and overstory biomass input into the food web, the seasonal RPW provides a uniquely important ecological connection to the downstream TNW. The unnamed seasonal RPW that is a tributary of the Lynches River has a significant nexus to the downstream TNW.**

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: **NOTE: A significant nexus determination has been completed for this drainage area under SAC-2015-01070, dated January 5, 2016.**

**Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:** The on-site seasonal RPW is performing important biological, chemical, and physical functions within a predominately upland drainage area and a watershed comprised primarily of agricultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. As a result, the waters of the US in the drainage area supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles and mammals. This tributary is 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. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the tributary helps reduce stormwater flow. Not only does this prevent the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, but it also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles. This seasonal RPW temporarily stores flood waters and reduces downstream peak flows. This helps to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Lynches River, it has been determined that there is a significant nexus between the relevant reach of the seasonal RPW to 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:  
  
 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 on-site 1st order tributary was determined to have seasonal flow based on a review of the aerials and information obtained during the previous site visit (SAC-2015-01070) on October 14, 2015. The aerials depict this tributary as a shaded linear feature. During the 2015 site visit, this feature was observed as having flow indicators such as an OHWM, a sinuous channel within bed and banks, and water staining. Seasonal flow indicators such as leaf litter and debris in the channel and a channel comprised of mucks, silts, and sands were observed. This 1st order seasonal RPW flows east into the Lynches River, a TNW.**

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

- Tributary waters: **2,266** linear feet **4** 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:            .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .

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

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

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

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

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

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

**7. Impoundments of jurisdictional waters.<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):

<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.

<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.

- 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): **~6,014 linear feet in excavated ditching was assessed for potential jurisdictional flow and adjacent wetlands, of which ~3,748 linear feet of ditching was found to not meet the criteria of a relatively permanent water (RPW) nor wetlands, while the remaining 2,266 feet did meet the criteria of an perennial relatively permanent water (pRPW).**

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: **Data sheets, depictions, and wetland map provided by Land Management Group. Map titled: "Figure 7 / Wetland Delineation / Sketch", dated November 19, 2018.**
- 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: .
- U.S. Geological Survey Hydrologic Atlas: **HUC 03040202\_05 (Middle Lynches River).**
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **Bishopville East quadrangle USGS topographic maps depict the 111.8 acre site as being bounded to the southwest by Hwy 341, being bounded by the northeast-east by the Lynches River and associated wetlands, and to the northwest and southeast by adjacent landowners. Forming the western project boundary and running through the central portion of the project site is a series of connected ditches illustrated on the topographic map as dashed blue lines, this aquatic feature was assessed and 2, 266 linear feet of this ditching was found to be jurisdictional.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **The Lee County soil survey depicts a matrix of seven soils, including: Noboco-Goldsboro complex (0-2% slopes), Coxville sandy loam (0-2% slopes), Rains sandy loam (0-2% slopes), Norfolk loamy sand (0-2% slopes), Barnwell loamy sand (2-6% slopes), Noboco loamy sand (2-6% slopes), and Udorhents, refuse substratum-Pits complex (0-15% slopes). Of the on-site soils the following four soils are considered hydric in Lee county per the 2016 South Carolina Soil Survey: Coxville sandy loam, Noboco-Goldsboro complex, Norfolk loamy sand, and Rains sandy loam.**
- National wetlands inventory map(s). Cite name: **National wetland inventory maps depict the site as 110 acres of cropland/pasture (U21), 1.69 acres of other urban (U17), and 0.11 acres of palustrine broad-leaved deciduous forested wetlands that are seasonally saturated (PFO1B); the NWI mapped wetland area is restricted to the far southeastern corner of the site.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **SC DNR 2006 Aerials, Lee 1999 Aerial Index 11230:12, Google Earth Aerial 1994-2017.**



or  Other (Name & Date): Site photos provided by Land Management Group on December 6, 2018, and site photos provided from previous AJD (SAC-2015-01070) on October 14, 2015.

Previous determination(s). File no. and date of response letter: The vast majority of this site, all but the ~1.2 acre portion consisting of Manton Rd, was assessed under a previous AJD (SAC-2015-01070), including an October 14, 2015 site visit and a significant nexus determination with a January 5, 2016 response letter date. This previous AJD covered a larger parcel of land, 163 acres, which included a portion of forested land located to the northeast of the project site, abutting the Lynches River. That ~52 acre section was not included in this AJD request.

Applicable/supporting case law:

Applicable/supporting scientific literature:

Other information (please specify): A LiDAR derived Digital Elevation Model was utilized to verify the presence and extent of the on-site aquatic features, specifically ditch features and elevation depressions that typically are associated with wetlands.

## B. ADDITIONAL COMMENTS TO SUPPORT JD:

The vast majority of this site, all but the ~1.2 acre portion consisting of Manton Rd, was assessed under a previous AJD (SAC-2015-01070), including an October 14, 2015 site visit and a significant nexus determination with a January 5, 2016 response letter date. This previous AJD covered a larger parcel of land, 163 acres, which included a portion of forested land located to the northeast of the project site, abutting the Lynches River. That ~52 acre section was not included in this AJD request.

National wetland inventory maps depict the site as 110 acres of cropland/pasture (U21), 1.69 acres of other urban (U17), and 0.11 acres of palustrine broad-leaved deciduous forested wetlands that are seasonally saturated (PFO1B); the NWI mapped wetland area is restricted to the far southeastern corner of the site. Bishopville East quadrangle USGS topographic maps depict the 111.8 acre site as being bounded to the southwest by Hwy 341, being bounded by the northeast-east by the Lynches River and associated wetlands, and to the northwest and southeast by adjacent landowners. Forming the western project boundary and running through the central portion of the project site is a series of connected ditches illustrated on the topographic map as dashed blue lines, this aquatic feature was assessed and 2, 266 linear feet of this ditching was found to be jurisdictional. The Lee County soil survey depicts a matrix of seven soils, including: Noboco-Goldsboro complex (0-2% slopes), Coxville sandy loam (0-2% slopes), Rains sandy loam (0-2% slopes), Norfolk loamy sand (0-2% slopes), Barnwell loamy sand (2-6% slopes), Noboco loamy sand (2-6% slopes), and Udorhents, refuse substratum-Pits complex (0-15% slopes). Of the on-site soils the following four soils are considered hydric in Lee county per the 2016 South Carolina Soil Survey: Coxville sandy loam, Noboco-Goldsboro complex, Norfolk loamy sand, and Rains sandy loam.

On-site is a 6.6 acre excavated pond for the sole function of storm-water retention. The pond is excavated out of NWI defined uplands (U21), does not have any means of outflow, does not convey water to any jurisdictional aquatic features, and does not feature wetlands within or adjacent to its banks. In addition to the pond, ~6,014 linear feet in excavated ditching was assessed for potential jurisdictional flow and adjacent wetlands, of which ~3,748 linear feet of ditching was found to not meet the criteria of a relatively permanent water (RPW) nor wetlands, while the remaining 2,266 feet did meet the criteria of a perennial relatively permanent water (pRPW). The 3,748 ln. ft. not meeting the criteria of a RPW was broken up within seven individual segments of the following approximate lengths: 1,428 ft., 1,342 ft., 455 ft., 240 ft., 155 ft., 78 ft., and 50 ft. The seven ditch segments were assessed for the characteristics of flow of a relatively permanent water, and were found to not contain/convey more than occasional flow from short-lived but occasionally strong rain events that are typical of the piedmont region. These ditches serve as a storm-water conveyance system to encourage storm-water to flow away from the existing agricultural fields. These ditches are excavated out of NWI labeled uplands (U21 – Upland Cropland/Pasture) that lack the necessary hydrology to support wetlands. These features convey only occasional flow due to seasonal rain, do not feature adjacent wetlands, and do not meet the criteria of a tributary of Waters of the United States, per CFR 328.3 paragraphs (a)(1)-(4) and the Rapanos-Carabell Guidance dated December 3, 2008. Therefore, these features are non-jurisdictional, per the Corps authority. Furthermore, all but 138 ln. ft. (in vicinity of Manton Road) of the on-site ditching on site were assessed in a previous JD (SAC-2015-01070), these features were found to have the same jurisdictional call as the 2015 call, however the length of these features has changed slightly due to project boundary alterations.

Text relating to the on-site perennial Relatively Permanent Water: The pRPW leaves the project site at the north western terminus of the boundary, at ~34.2116, -80.2232, there the flow continues off-site to the northeast-east within excavated ditches for ~0.40 miles and eventually drains directly into ~0.30 mile-wide wetland that directly abuts the Lynches River. This tributary (pRPW) receives 41-48 inches/year of primarily seasonal rainwater which reaches the tributary via unconfined surface and groundwater flow from adjacent uplands and wetlands, as well as confined and discrete flow from upstream non-jurisdictional ditches located within on-site uplands and adjacent off-site farm fields. According to the USACE Navigability Study Report No. 10, the Lynches River's recommended limit of navigability is located at River Mile (RM) 114 and the Historic Limit of Navigability is located at RM 121. The portion of the Lynches River within the project site is located approximately at RM 97. The tributary has clear flowing water presently. Land use in this watershed is comprised of approximately 40% agricultural land, 30% forested wetland, 22% forested land, and 5% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, and water. The SCDHEC Watersheds website states that there is a low to moderate potential for growth in this watershed, which includes portions of the City of Bishopville and the Towns of Lynchburg and Cartersville. A large portion of the Lynches watershed is comprised of agricultural land, therefore the potential exists for herbicides and pesticides, as well as runoff from land disturbing activities such as plowing and harvesting, to enter the tributary. Because this land use requires regular manipulation of the soils, agricultural activities can create an increase in suspended sediments in the downstream tributaries. According to the SCDHEC website, the downstream monitoring station on the Lynches River (PD-364) states that aquatic life uses are not supported due to pH excursions. Significant decreasing trends in five-day biochemical oxygen demand, turbidity, total phosphorus concentration and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are supported. A fish

consumption advisory has been issued for the Lynches River from Hwy 15 to the Great Pee Dee River due to the presence of mercury. This 1st order pRPW supports a riparian zone several hundred linear feet wide that contributes to the health of the aquatic system by filtering out pollutants and preventing erosion. The majority of this tributary is located within a wetland system that comprises the floodplain of the Lynches River. This 1st order tributary provides important aquatic habitat for wildlife and a travel corridor for aquatic fauna. The on-site seasonal RPW is performing important biological, chemical, and physical functions within a predominately upland drainage area and a watershed comprised primarily of agricultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. As a result, the waters of the US in the drainage area supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles and mammals. This tributary is 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. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the tributary helps reduce storm-water flow. Not only does this prevent the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, but it also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles. This seasonal RPW temporarily stores flood waters and reduces downstream peak flows. This helps to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Lynches River, it has been determined that there is a significant nexus between the relevant reach of the seasonal RPW to the downstream TNW. The on-site 1st order tributary was determined to have seasonal flow based on a review of the aeriels and information obtained during the previous site visit (SAC-2015-01070) on October 14, 2015. The aeriels depict this tributary as a shaded linear feature. During the 2015 site visit, this feature was observed as having flow indicators such as an OHWM, a sinuous channel within bed and banks, and water staining. Seasonal flow indicators such as leaf litter and debris in the channel and a channel comprised of mucks, silts, and sands were observed. This 1st order seasonal RPW flows east into the Lynches River, a TNW.

Jurisdictional aquatic features on site consist of 2,266 linear feet of non-wetland waters. Non-jurisdictional aquatic features on-site consist of 3,748 linear feet of excavated ditches and a 6.6 acre excavated pond.

This site was assessed per the provided site maps and on a single basis form.