

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 14, 2015

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, SCDOT S-262 (Leesburg Road) Roadway Project, SAC 2011-00819-DS

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: Richland County City: Columbia
Center coordinates of site (lat/long in degree decimal format): Lat.33.980076 ° N, Long 80.916038° W.
Universal Transverse Mercator:

Name of nearest waterbody: Mill Creek

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

Name of watershed or Hydrologic Unit Code (HUC): Congaree River (03050110-010)

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: May 1, 2012 and December 11, 2015 (due to revised project limits)

Field Determination. Date(s): October 13, 2011

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: SRPW Tributary A: 171 LF, SRPW Tributary B: 137 LF, RPW Tributary C (Mill Creek): 430 linear feet
Variable width (ft) and Open Water Pond B: 2.838 acres.

Wetlands: Wetland A: 0.009 acres, Wetland B: 0.001 acres, Wetland C: 0.013 acres, Wetland D: 0.52 acres, and Wetland E: 1.749 acres. All of these wetlands are abutting RPW's, some of these wetlands continue outside of the project limits and are in contact with RPW's outside of the project limits.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual and OHWM.

Elevation of established OHWM (if known): .

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

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

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

³ Supporting documentation is presented in Section III.F.

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **An upland dug pond (identified as non-jurisdictional Open Water A) was determined to be non-jurisdictional. This was based upon the fact that this feature has been excavated within an upland area that has no outlet and appears to receive overland sheet flow and shallow ground water from a relatively small drainage area within the residential area. Although it could not be determined for sure, it appears that the feature may have been constructed in an attempt to create a small (0.038 acre) decorative pond. Due to the small drainage area, construction from excavation in an upland area to a depth that does not intercept ground water, this feature likely does not have standing water throughout a typical year. Based on this information the Corps has determined that this upland dug pond (identified as non-jurisdictional Open Water A) is not a jurisdictional water of the U.S.**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

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

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

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

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

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:

Watershed size: Congaree River (03050110-010): 23,381 **acres**

Drainage area: 130 **acres**

Average annual rainfall: Based on Richland Co Soil Survey 46.12 inches

Average annual snowfall: Based on Richland Co Soil Survey 2.1 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW. Tributaries to Mill Creek (SRPW Stream A & B) and Mill Creek (RPW C) are tributary to Congaree River (TNW)

Tributary flows through **Pick List** 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 **5-10** 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: N/A .

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

Identify flow route to TNW⁵: Unnamed tributaries to Mill Creek (SRPW Tributaries A & B) to Mill Creek (RPW C) to Conagree River (TNW).

Tributary stream order, if known: Stream C (Mill Creek) is second order at S-262 roadway crossing, and Tributaries A & Stream B are first order streams.

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: Some areas adjacent to S-262 and residential developments show some evidence of being (straightened) man altered.

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

Average width: Stream C: 20 feet, Stream A: 4 feet, Stream B: 2.5 feet

Average depth: Stream C: 3 feet, Stream A: <1feet, Stream B: <1 feet

Average side slopes: **4:1 (or greater)**.

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: All streams appear to be fairly stable.

Presence of run/riffle/pool complexes. Explain: None observed within project limits.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): < 3.0% %

(c) Flow:

Tributary provides for: **Perennial flow for Stream C, Stream A & B are seasonal**

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

Describe flow regime: Tributary C (Mill Creek has perennial flow) this is based on established bed and banks, ordinary high water mark, and a perennial flow regime. However Tributary A and Tributary B, appear to have seasonal flow. This determination is based upon field observations of established bed and bank, ordinary high water mark, and presence of aquatic organisms, it appears that these tributaries have continuous flow for more than three consecutive months, but may not have continuous flow throughout a typical year. This is based on the observed size of the tributary, limited drainage areas and localized development, Tributaries A & B may experience times of limited or no flow during the typical year.

Other information on duration and volume: .

Surface flow is: **Discrete and confined**. Characteristics: flow in all tributaries is confined within the established bed and banks and Open Water B (Pond) is contained within excavated area and embankment.

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

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

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:

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.

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

⁷Ibid.

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

(iii) Chemical Characteristics:

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

Explain: Water was fairly clear and no observed pollutants or excessive sediments were noted.

Identify specific pollutants, if known:

Due to location of these waters adjacent to a State roadway (SC-262) it is anticipated that there could be some non-point sources of pollutants that could be washed overland into these waters. This would include fuels, oils, and other pollutants deposited on the roadways from cars and trucks. In additions since there are stormwater collection/outfall structures within the project limits, these waters could also receive waters that have increased sediments from eroded areas in the surrounding area during storm events.

SCDHEC website includes the following information for Mill Creek - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Significant decreasing trends in total phosphorus concentration and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

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

- Riparian corridor. Characteristics (type, average width): Mill Creek (Tributary C) has a forested riparian corridor (including wetlands), although it has been somewhat impacted by adjacent residential development in some locations within the project limits. In some areas this corridor is less than 50 feet in width (including Mill Creek width 20 feet) and in other areas it is much wider. Also the unnamed tributaries to Mill Creek (SRPW Tributaries A & B) have a limited riparian corridor due to presence within residential area.
- Wetland fringe. Characteristics: Tributary C (Mill Creek) has a large area of forested wetlands abutting the stream on the north side of S-262 (Leesburg Road). Also the unnamed tributaries to Mill Creek (SRPW Tributaries A & B) have a limited wetland fringe that includes Wetland A, B, and C that directly abut these tributaries (SRPW Tributaries A & B).
- Habitat for:
- Federally Listed species. Explain findings: .
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: Mill Creek (Tributary C) and unnamed tributaries (SRPW Tributaries A & B) provide an opportunity for many organisms (aquatic and terrestrial) to not only have area of refuge, but also to provide areas for foraging and rearing of young.

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: Wetland A: 0.009 acres, Wetland B: 0.001 acres, Wetland C: 0.013 acres, Wetland D: 0.52 acres, and Wetland E: 1.749 acres

Wetland type. Explain: Majority of wetlands delineated are forested.

Wetland quality. Explain: The delineated wetlands do have some areas that are slightly impacted by residential and roadway presence, however the majority of these wetlands are unaffected by development.

Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: Flow between the identified wetlands and identified tributaries occur numerous times throughout the year, on an intermittent basis. Due to the fact that these wetland areas abut both RPW and SRPW, the flow is occurring from tributary into wetlands during high flow (out of bank) events and from the wetland back to the tributary as flows diminish/drop throughout the year.

Surface flow is: **Discrete**

Characteristics: As discussed above, there is flow from the tributary to the wetland during high flow (out of bank) events and then flow would return to the tributary as flow rates would diminish/drop throughout the year.

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: .

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 **5-10** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **5 - 10-year** 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: Majority of wetlands delineated are forested and appear to be free of any visible contaminants or excessive sediments.

Identify specific pollutants, if known: N/A.

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

Riparian buffer. Characteristics (type, average width): Mill Creek (RPW Tributary C) has a forested riparian corridor (including wetlands), although it has been somewhat impacted by adjacent residential development in some locations within the project limits. In some areas this corridor is less than 50 feet in width (including Mill Creek width 20 feet) and in other

areas it is much wider. Also the unnamed tributaries to Mill Creek (SRPW Tributaries A & B) have a limited riparian corridor and wetland fringe (directly abutting Wetland A, B, & C).

Vegetation type/percent cover. Explain: Majority of delineated are dominated by a mix of maturing hardwood/softwood forests.

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Tributaries provide an opportunity for many organisms (aquatic and terrestrial to not only have area of refuge, but also to provide areas for foraging and rearing of young.

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

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

Approximately (2.3) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland A-Yes	0.009	Wetland B-Yes	0.001
Wetland C-Yes	0.013	Wetland D-Yes	0.52
Wetland E-Yes	1.749		

Summarize overall biological, chemical and physical functions being performed: Wetland A & Wetland B abut SRPW Tributary A, and Wetland C abuts SRPW Tributary B. These wetlands are directly abutting both SRPW's and provide hydrology to SRPW Tributaries A and Stream B. Both SRPW A and SRPW flow to Open Water B (Pond) (portions of these tributaries are piped/culverted but are directly connected to Open Water B). Open Water B has a water control structure which outlets form Open Water B into the Wetland area D and an unnamed tributary to Mill Creek (RPW) which continues outside of the project limits. This unnamed tributary flows to Mill Creek outside of this project limits and ultimately to the downstream TNW (Congaree River). Also, Wetland E and Wetland D are wetlands that directly abut Mill Creek (RPW Tributary C). As discussed above, Wetland D abuts an unnamed tributary outside of the project limits, Wetland D also abuts Mill Creek outside of the project limits. These wetlands provide an important hydrology source for Mill Creek and ultimately the downstream TNW (Congaree River).

Wetlands have been shown to provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition wetlands have been shown to provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. Wetlands have also been shown to provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. Wetlands provide an area where sediments can be captured and prevented from entering receiving streams. Wetlands provide a diverse ecosystem for aquatic and terrestrial species. This diversity in part is provided by the fact that the wetland provides benefits of both terrestrial and aquatic habitats. This is especially important for species that require aquatic habitats for completion of a portion of their life cycle and a terrestrial habitat for another stage. In addition numerous terrestrial species rely upon wetlands such as these, to provide a source of food, shelter, and/or brooding area. Wetlands with a diversity of plant types and water regimes (open water, emergent, scrub/shrub, forest) provide a richer habitat which can be utilized by a larger number of species. This is especially true in the "edge" (ecotone) between aquatic systems and upland systems. In watersheds that contain forested wetlands, such as at this location, it has been shown that the wetlands export a large amount of carbon from the wetland areas. This carbon is critical for downstream aquatic organisms. Especially the macroinvertebrates that utilize the carbon as a food source and which in turn provide the basis for numerous food webs within streams and rivers.

It is based upon these functions that Wetland A, Wetland B (via SRPW Tributary A), Wetland C (via SRPW Tributary B) and Wetland D and E (via Mill Creek-RPW Tributary C) have a significant nexus to Congaree River by providing a substantial contribution to the integrity of the physical, chemical and biological features of tributaries to Mill Creek, Mill Creek (RPW) and ultimately the Congaree River (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:
4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:** SRPW Tributaries A & B with their abutting Wetlands A, B, &C, Open Water B (Pond) are performing a variety of functions that relate to the physical, chemical, and biological integrity of the TNW (Congaree River). Although there are areas of piping/culverts that are found within the project limits, there is connectivity from the SRPW's through Open Water B and on to Mill Creek. The physical characteristics of these tributaries and abutting wetlands are performing flow management functions such as retaining runoff from the adjacent residential/commercial developments and storing rainwater temporarily after storm events. Flow maintenance results in the reduction of downstream peak flows, which help to maintain seasonal flow volumes. Functions of the tributary and wetland that impact the chemical integrity of the TNW (Congaree River) downstream include the filtering of excess nutrients contributed by runoff from the surrounding uplands due to residential/commercial developments which reduces nitrogen and phosphorus loading downstream. A variety of biological functions are being performed by these Seasonal RPW's and abutting wetlands, which include providing breeding grounds and shelter for aquatic wildlife and foraging areas for water dependant species and other wildlife. These tributaries and abutting wetlands provide diversity through vegetation changes, and the tributaries upstream connections to adjacent uplands provides a riparian connection between upstream areas and the larger downstream riparian corridor. It is based upon these functions that SRPW Stream A, Stream B, and jurisdictional Pond B have a significant nexus to Congaree River by providing a substantial contribution to the integrity of the physical, chemical, and biological features of Mill Creek (RPW) and the Congaree River (TNW).

Wetland A & Wetland B abut SRPW Tributary A, and Wetland C abuts SRPW Tributary B. These wetlands provide hydrology to SRPW Tributaries A & B, Open Water B (Pond), and unnamed tributary to Mill Creek (outside of project limits) and the downstream TNW (Congaree River). In addition, Wetland E and Wetland D are wetlands that abut Mill Creek (RPW Tributary C), although Wetland D abuts Mill Creek outside of the project limits. These wetlands provide an important hydrology source for Mill Creek and the downstream TNW (Congaree River). Wetlands have been shown to provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition wetlands have been shown to provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. Wetlands have also been shown to provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. Wetlands provide an area where sediments can be captured and prevented from entering receiving streams. Wetlands provide a diverse ecosystem for aquatic and terrestrial species. This diversity in part is provided by the fact that the wetland provides benefits of both terrestrial and aquatic habitats. This is especially important for species that require aquatic habitats for completion of a portion of their life cycle and a terrestrial habitat for another stage. In addition numerous terrestrial species rely

upon wetlands such as these, to provide a source of food, shelter, and/or brooding area. Wetlands with a diversity of plant types and water regimes (open water, emergent, scrub/shrub, forest) provide a richer habitat which can be utilized by a larger number of species. This is especially true in the “edge” (ecotone) between aquatic systems and upland systems. In watersheds that contain forested wetlands, such as at this location, it has been shown that the wetlands export a large amount of carbon from the wetland areas. This carbon is critical for downstream aquatic organisms. Especially the macroinvertebrates that utilize the carbon as a food source and which in turn provide the basis for numerous food webs within streams and rivers. It is based upon these functions that Wetland A, Wetland B, and Wetland C via Tributaries A & B and Wetland D & E via Mill Creek (RPW Tributary C) have a significant nexus to Congaree River by providing a substantial contribution to the integrity of the physical, chemical and biological features of Mill Creek (RPW) and the Congaree River (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: Mill Creek (RPW Tributary C) appears as a solid blue line on the USGS map for this area and S-262 crosses this stream by a sizable bridge within the project limits. In addition, during the field view, perennial flow regime was observed along with established bed and banks, an established ordinary high water mark, as were numerous fish. Based on the stream characteristics observed and available data, the Corps has determined that this tributary (Mill Creek) has a perennial flow regime.
- 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: SRPW Tributaries A & B have seasonal flow. This is based upon field observations of established bed and bank, ordinary high water mark, and presence of aquatic organisms (but no fish), it appears that these tributaries have continuous flow for more than three consecutive months, but may not have continuous flow throughout a typical year. This is based on the physical size of the tributary, limited drainage areas and localized development, Tributaries A & B may experience times of limited or no flow during the typical year. Based on the stream characteristics observed and available data, the Corps has determined that these tributaries (tributaries to Mill Creek) has a perennial flow regime.

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

- Tributary waters: **SRPW Tributary A: 171 LF, SRPW Tributary B: 137 LF, RPW Tributary C: 430 linear feet**
Varies width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters .

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

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

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

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

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

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland E directly abuts Mill Creek (RPW Tributary C) which is a Relatively Permanent Water In addition, Wetland D is a large wetland area that extends beyond project limits and abuts both a tributary to Mill Creek and Mill Creek.**
 - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland A and Wetland B abut SRPW Tributary A and Wetland C abuts SRPW Tributary B that the Corps has determined to be tributaries with seasonal flow regimes.**

⁸See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland A: 0.009 acres, Wetland B: 0.001 acres, Wetland C: 0.013 acres, Wetland D: 0.52 acres, and Wetland E: 1.749 acres.**

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

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

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

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

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

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

7. **Impoundments of jurisdictional waters.⁹**

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

- Demonstrate that impoundment was created from “waters of the U.S.,” or Open **Water B (Pond) is an impoundment of both SRPW Tributaries A & B. Only 2.838 acres of Open Water B (Pond) is located within the project limits.**
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: _____.
- 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): **An upland dug pond (identified as non-jurisdictional Open Water A) was determined to be non-jurisdictional. This was based upon the fact that this feature has been excavated within an upland area that has no outlet and appears to receive overland sheet flow and shallow ground water from a relatively small drainage area within the residential area. Although it could not be determined for sure, it appears that the feature may have been constructed in an attempt to create a small (0.038 acre) decorative pond. Due to the small drainage area, construction from excavation in an upland area to a depth that does not intercept ground water, this feature likely does**

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.

not have standing water throughout a typical year. Based on this information the Corps has determined the this upland dug pond (identified as non-jurisdictional Open Water A) is not a jurisdictional water of the U.S.

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: STV-Ralph Whitehead.
- 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.

Although the Corps may not agree with all the information provided by the agent in the data forms describing delineated wetlands, the Corps agrees with the conclusion and boundaries established from site information documented.

- Data sheets prepared by the Corps: .
- Corps navigable waters' study: Corps 1977 Navigability Study.
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03050110-03 (Congaree River)
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, Fort Jackson, South, South Carolina.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Page 40, Fuquay-Urban, Water, Rains, Johnston soil series.
- National wetlands inventory map(s). Cite name: U11, PFO1B, PSS1Ch, PFO1C, PUBHh.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):(1999) 11203:193.
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: JD letter issued May 16, 2012.
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): Site View on XXxX.

5. B. ADDITIONAL COMMENTS TO SUPPORT JD: SRPW Tributaries A & B with their abutting Wetlands A, B, & C, Open Water B (Pond) are performing a variety of functions that relate to the physical, chemical, and biological integrity of the TNW (Congaree River). Although there are areas of piping/culverts that are found within the project limits, there is connectivity from the SRPW's through Open Water B and on to Mill Creek. The physical characteristics of these tributaries and abutting wetlands are performing flow management functions such as retaining runoff from the adjacent residential/commercial developments and storing rainwater temporarily after storm events. Flow maintenance results in the reduction of downstream peak flows, which help to maintain seasonal flow volumes. Functions of the tributary and wetland that impact the chemical integrity of the TNW (Congaree River) downstream include the filtering of excess nutrients contributed by runoff from the surrounding uplands due to residential/commercial developments which reduces nitrogen and phosphorus loading downstream. A variety of biological functions are being performed by these Seasonal RPW's and abutting wetlands, which include providing breeding grounds and shelter for aquatic wildlife and foraging areas for water dependent species and other wildlife. These tributaries and abutting wetlands provide diversity through vegetation changes, and the tributaries upstream connections to adjacent uplands provides a riparian connection between upstream areas and the larger downstream riparian corridor. It is based upon these functions that SRPW Stream A, Stream B, and jurisdictional Pond B have a significant nexus to Congaree River by providing a substantial

contribution to the integrity of the physical, chemical, and biological features of Mill Creek (RPW) and the Congaree River (TNW).

Wetland A & Wetland B abut SRPW Tributary A, and Wetland C abuts SRPW Tributary B. These wetlands provide hydrology to SRPW Tributaries A & B, Open Water B (Pond), and unnamed tributary to Mill Creek (outside of project limits) and the downstream TNW (Congaree River). In addition, Wetland E and Wetland D are wetlands that abut Mill Creek (RPW Tributary C), although Wetland D abuts Mill Creek outside of the project limits. These wetlands provide an important hydrology source for Mill Creek and the downstream TNW (Congaree River). Wetlands have been shown to provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition wetlands have been shown to provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. Wetlands have also been shown to provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. Wetlands provide an area where sediments can be captured and prevented from entering receiving streams. Wetlands provide a diverse ecosystem for aquatic and terrestrial species. This diversity in part is provided by the fact that the wetland provides benefits of both terrestrial and aquatic habitats. This is especially important for species that require aquatic habitats for completion of a portion of their life cycle and a terrestrial habitat for another stage. In addition numerous terrestrial species rely upon wetlands such as these, to provide a source of food, shelter, and/or brooding area. Wetlands with a diversity of plant types and water regimes (open water, emergent, scrub/shrub, forest) provide a richer habitat which can be utilized by a larger number of species. This is especially true in the "edge" (ecotone) between aquatic systems and upland systems. In watersheds that contain forested wetlands, such as at this location, it has been shown that the wetlands export a large amount of carbon from the wetland areas. This carbon is critical for downstream aquatic organisms. Especially the macroinvertebrates that utilize the carbon as a food source and which in turn provide the basis for numerous food webs within streams and rivers. It is based upon these functions that Wetland A, Wetland B, and Wetland C via Tributaries A & B and Wetland D & E via Mill Creek (RPW Tributary C) have a significant nexus to Congaree River by providing a substantial contribution to the integrity of the physical, chemical and biological features of Mill Creek (RPW) and the Congaree River (TNW).

The waters documented on this form include a perennial RPW Tributary C (Mill Creek), Seasonal RPW's (SRPW Tributaries A & B), the impoundment of the SRPW's (Open Water B-Pond) and wetlands directly abutting these jurisdictional tributaries. Based on guidance in RGL 07-01, perennial RPW's are subject to jurisdiction under the Clean Water Act. Seasonal RPW's are also jurisdictional under CWA, but agency policy is to provide any information in support of a Significant Nexus Determination for these tributary and their adjacent wetlands. Therefore, this office has made the determination that the waters documented on this form are jurisdictional Waters of the U.S.

An upland dug pond (identified as non-jurisdictional Open Water A) was determined to be non-jurisdictional. This was based upon the fact that this feature has been excavated within an upland area that has no outlet and appears to receive overland sheet flow and shallow ground water from a relatively small drainage area within the residential area. Although it could not be determined for sure, it appears that the feature may have been constructed in an attempt to create a small (0.038 acre) decorative pond. Due to the small drainage area, construction from excavation in an upland area to a depth that does not intercept ground water, this feature likely does not have standing water throughout a typical year. Based on this information the Corps has determined that this upland dug pond (identified as non-jurisdictional Open Water A) is not a jurisdictional water of the U.S.

The feature identified as "non-jurisdictional Open Water A" documented on this form includes wetlands or other waters that are not jurisdictional. The features exhibit no apparent connection to Waters of the U.S., including no physical, chemical, or biological connections, and no apparent shallow subsurface flow connections to other waters. On the basis of this information, this office has determined that this feature as documented on this form is not subject to jurisdiction under the Clean Water Act.