

NOTICE TO PROPOSERS

September 16, 2014

NOTICE TO PROPOSERS - Enclosed is Addendum #1 to the Request for Proposals (RFP) package for the Replacement of the US 701 Bridge Replacements over Yauhannah Lake, Great Pee Dee River, & Great Pee Dee Overflow. The information provided in this notice and the addendum shall be made part of the contract documents.

The **yellow** highlights identify the changes from the Industry Review RFP to the Final RFP. The **green** highlights identify the changes associated with Addendum #1.

This addendum is being issued in order to provide clarification and additional information for the project and includes the following documents:

- NOTICE TO PROPOSERS
- NOTICE OF RECEIPT
- Pages to be inserted into Request for Proposals

The following pages should be inserted into previously provided copies of the RFP and the old page of the same number removed and disregarded. A summary of the pages included follows:

Request for Proposals

- Pages 7, 14, 15, & 21 (Milestone Schedule)

Exhibit 3– Scope of Work

- Pages 1 through 11

Exhibit 4a – Roadway Design Criteria

- Pages 1, 6, & 7

Exhibit 4b – Structures Design Criteria

- Pages 1 through 7

Exhibit 4e– Hydraulic Design Criteria

- Page 1

Exhibit 4f – Geotechnical Design Criteria

- Page 2

Exhibit 8– Environmental Information

- Page 3

Additional Attachment B

- Approved Preliminary Jurisdictional Determination dated August 28, 2014

US 701 Over Yauhannah Lake, Great Pee Dee River, & Great Pee Dee Overflow
Proposal ID 5584230 - P2S 0030684 -Federal Aid Project No. BR88 (044)

Georgetown & Horry Counties

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**NOTICE OF RECEIPT
ADDENDUM #1**

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal and/or Statement of Intent. Signed receipt of this document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated Addendum #1 into the contract documents.

Confirmation Statement:

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.

PROPOSER's Signature

Date

Printed Name

For: _____
Design Build Team Name

are intended to be an informal inquiry by the PROPOSER to explore a concept and a quick method by SCDOT to review and comment on potential development of ATC prior to investment of time and resources by the PROPOSER. Submission of preliminary concepts does not change or extend the submission deadline of formal ATCs. SCDOT reserves the right to ask PROPOSER to clarify its email. If a preliminary concept receives a favorable response from SCDOT, PROPOSER can elect to submit a formal ATC in accordance with these procedures. A favorable response by SCDOT in no way guarantees that the concept will become an approved ATC. The favorable response may be subject to conditions. **PROPOSER shall be limited to two packages of preliminary concepts and the total number of preliminary concepts shall not exceed twenty (20).** A package is a submittal of 1 or more ATC's. If more than one preliminary concept has been received on the same topic, SCDOT has the right to revise the RFP to include that concept as an addendum to the RFP.

- b. ATC Identification: ATC will be submitted by the PROPOSER and evaluated by SCDOT as set forth in the RFP Milestone Schedule. All ATCs shall be submitted in writing to the POC identified in the RFP with a cover letter clearly identifying the submittal as a request for review of an ATC under this RFP. If the PROPOSER does not clearly designate its submittal as an ATC, the submission will not be treated as an ATC by SCDOT.
- c. **A maximum number of ~~ten (10)~~ seven (7) ATCs may be submitted to SCDOT by the PROPOSER for consideration.**

2. Contents of ATC Submittal:

Each ATC submittal shall include one (1) electronic and one (1) hard-copy and shall include the following:

- a. **Description:** A detailed description and schematic drawings of the configuration of the ATC or other appropriate descriptive information (including, if appropriate, specifications, construction tolerances, special provisions, proposed bridge types, product details, and a traffic operational analysis);
- b. **Usage:** Locations where and an explanation of how the ATC would be used on the Project;
- c. **Deviations:** List in table format, all references to any requirements of the RFP or to any requirements of the Contract Documents that are inconsistent with the proposed ATC. Include an explanation of the nature of the proposed deviation and a request for approval of such deviations or a determination that the ATC is consistent with the requirements of the RFP;

3. Conceptual Maintenance of Traffic Plans depicting the number of construction stages and a staging narrative to include duration of each stage.

PROPOSERS must provide responses to the items below in order to provide SCDOT a general overview of the PROPOSER'S approach to the Project. **The conceptual plans required above and the technical proposal narrative will be utilized to evaluate the responses below.** The 100 total quality credit points available will be based on the commitments in the responses to the items below:

1. Describe the approach and team commitment in design, construction, and agency coordination to minimize impacts to the environmental resources. Quantify and describe all environmental impacts associated with the approach and project delivery. Items to consider:
 - i. Availability of boat ramp during construction and final location of facility
 - ii. Impact to Waccamaw National Wildlife Refuge
 - iii. ~~Avoidance and Minimization of wetland impacts~~
 - iv. Minimization of right of way impacts
 - v. Minimization of impacts to traffic

Quantify and describe all environmental impacts associated with the approach and project delivery. (~~60 points~~ ~~50 points~~ ~~20 points~~)

2. Describe the team's approach in design and construction to avoid and minimize impacts to wetlands. As shown in the NEPA document, 9.487 acres of permanent impacts and 11.07 acres of temporary impacts are anticipated for the preferred alternative. For every acre of temporary impact the team commits to avoid, a credit of 2.5 points will be assigned. For every acre of permanent impact the team commits to avoid, a credit of 3.5 points will be assigned. The maximum points assigned will be 30 points. (30 points)
3. Identify commitments of materials, designs, and construction methods that would minimize maintenance costs in the future to the SCDOT and benefit the project. Potential commitments could involve reducing the use of steel bridge components, installing low maintenance drainage components and expansion joints, installing longer-life pavement, etc. (~~20 points~~ 15 points)
4. Describe any additional improvements or tasks that will be included in the Project including but not limited to additional warranties, enhancements, and assumed Project risk. Potential items could include landscaping, extension of roadway items such as resurfacing on mainline and/or side roads, installation/replacement of signage, enhancement of Refuge trails and boat ramp access area, increased public involvement, etc. (10 points)
5. Describe the team's commitment to minimizing impacts to existing bridges and embankments traffic. Potential considerations include construction methods, degree of which existing bridge will be used, limiting vibration producing activities lane/nighttime closures, etc. (~~10 points~~ 25 points)

Addendum #1

REQUEST FOR PROPOSALS

US Route 701 Bridge Replacements Over Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow
P2S 0030684, Proposal ID 5584230, Federal Aid Project No. BR88(044)
Georgetown & Horry Counties, South Carolina

All Project commitments above and beyond the requirements of the RFP, supported in the technical narrative, shall be summarized in a matrix in a clear and concise manner and shall become part of the contract.

Note: Drawings and plans requested as part of the Technical Proposal shall not count against the specified page limit and can be included in the Appendix.

Cost Proposal

PROPOSERS shall complete the Cost Proposal Bid Form provided at the end of this document. The Cost Proposal Bid Form shall be sealed in a separate envelope and delivered as part of the Cost Proposal per the Milestone Schedule.

Confidentiality of Proposals

PROPOSER shall specifically mark any elements that are deemed confidential, or proprietary. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark the entire proposal as confidential or proprietary. In determining whether to release documents, the SCDOT will rely on PROPOSER's marking of each page or portions of pages of documents, as required by these instructions, as being either "Confidential" or "Trade Secret". PROPOSER shall be prepared upon request to provide justification of why such materials shall not be disclosed under the South Carolina Freedom of Information Act, Section 30-4-10, et seq., South Carolina Code of Laws (1976) as amended. Proposals will be kept confidential and will not be disclosed, except as may be required by law.

Noncollusion and Equal Employment Opportunity Certification

PROPOSERS shall certify that they have not participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with the submission of this proposal on this Project. Proposal submitted without the non-collusion certification may be deemed non-responsive. The non-collusion certification form provided as part of this document shall be submitted as part of the Technical proposal and will not count against the specified page limit.

PROPOSERS shall complete the Equal Employment Opportunity (EEO) Performance Certification form provided as part of this document. Proposal submitted without the EEO certification may be deemed non-responsive. The EEO certification form shall be submitted as part of the Technical proposal and will not count against the specified page limit.

VI. EVALUATION OF PROPOSALS

Proposal Review Committee

A Proposal Review Committee ("Committee") will be appointed by SCDOT to review the Proposals. The voting members will be comprised of SCDOT employees. In addition, SCDOT will assemble a group of non-voting resource members having expertise in the various disciplines required by the Project including the Federal Highway Administration.

XIV. MILESTONES

Provide RFP for Industry Review to Selected Short-list PROPOSERS	Thursday, June 12, 2014
Deadline Clarifications/Comments to be submitted by PROPOSERS	Thursday, June 26, 2014
Confidential One-on-One meetings with PROPOSERS	Wednesday, July 16, 2014
Issue Final RFP	Tuesday, August 5, 2014
Preliminary ATC Concepts Submittals (Start)	Wednesday, August 6, 2014
Confidential RFP Questions and Preliminary ATC to be submitted by PROPOSERS	Monday, August 18, 2014
Confidential RFP and ATC One-on-One meetings with PROPOSERS	Wednesday, August 27, 2014
Begin Formal ATC Process	Wednesday, August 27, 2014
All Formal ATC's SHALL be submitted prior to	Wednesday, September 17, 2014 Wednesday, October 8, 2014
Submittal of Proposals	Wednesday, October 29, 2014 by 2:00 PM EDT. Wednesday, November 19, 2014 by 2:00 PM EDT.
Bid Opening(with team representatives present)	Wednesday, November 12, 2014 Wednesday, December 4, 2014
Notification of Selection	November 2014 December 2014
Award/Contract Execution	SCDOT Commission Meeting December 4, 2014 January 2015

Addendum #1

REQUEST FOR PROPOSALS

US Route 701 Bridge Replacements Over Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow
P2S 0030684, Proposal ID 5584230, Federal Aid Project No. BR88(044)
Georgetown & Horry Counties, South Carolina

SCOPE OF WORK

General

The CONTRACTOR is to perform, at a minimum, all work necessary to complete the replacement of the US 701 Bridges over the Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow as described within this Scope of Work, the Contract Agreement, and the Request for Proposals (RFP). **The CONTRACTOR shall construct three (3) new bridges as described in the NEPA document.** This work shall be performed in accordance with all contract requirements. In carrying out this work, the CONTRACTOR is responsible for all contract services including, but not limited to, project administration, design, plan preparation services, demolition and construction services for roadway, bridge, and existing/abandoned foundations, maintenance of traffic, any necessary right of way acquisitions and acquisition services, utility coordination and relocation services, contractor quality control, environmental permits, **mitigation**, preparation of as-built plans, public/community relations, and any other service that may be necessary for the replacement of the bridges. **The CONTRACTOR shall maintain two lanes of traffic for the duration of construction.**

As part of the design services, the CONTRACTOR shall complete the design throughout the project limits per the typical sections and **criteria provided, and according to the details contained herein.** The CONTRACTOR is fully responsible for compliance with the specifications and standards cited in all Contract Documents. Design submittals shall be provided in accordance with the Contract Agreement. Any deviation from the proposed design (whether necessary or desired by the CONTRACTOR) shall meet or exceed the contract requirements. If the project design necessitates a modification to any previously approved document (including but not limited to, the environmental document), the CONTRACTOR is responsible for the necessary studies and reports. Final review and approval lies with SCDOT and FHWA.

There are known foundation Settlement issues with the existing US 701 Bridges. This shall be considered in the contractor's design, construction means and methods, and cost proposal.

Acquisition and all costs associated with acquiring the necessary right-of-way shall be the responsibility of the CONTRACTOR. If additional right-of-way is required outside of the NEPA footprint, it shall be the responsibility of the CONTRACTOR to provide a re-evaluation of the NEPA document and to revise any permits deemed necessary to reflect the proposed right-of-way.

Maintenance of Existing Bridges During Construction

As indicated in the SCDOT Standard Specifications, the CONTRACTOR shall be responsible for the routine maintenance of the existing bridges during the **construction contract** time beginning when SCDOT issues **the Full** Notice to Proceed #2. All costs associated with these services shall be included in the Contract Price. **Once construction begins, the CONTRACTOR shall be responsible for any damage to existing structures, including but not limited to settlement during vibration producing activities and damage during equipment operation.**

Prior to NTP #2, SCDOT will continue to conduct inspections of the existing bridges in accordance with SCDOT policies. Upon completion of the inspections and after determining the needed repairs, SCDOT will take necessary measures required to ensure that the deficiencies are remediated or rendered harmless prior to NTP #2. Such necessary measures will include self-performing, retaining a qualified firm, or negotiating a construction change order with the CONTRACTOR. Such work may include, but is not limited to, cribbing of beams (replacing shims and/or saddles) and repairing of spalls and/or decks as well as related items such as traffic control, snooper truck, and others.

As of the date of issuance of this final RFP, the existing bridges can support legal loads. The CONTRACTOR shall not operate equipment and/or vehicles on the existing bridges that exceed legal load limits. The CONTRACTOR is prohibited from transporting or using overweight (OW) loads on the existing bridges during construction. OW loads are those vehicles or loads that exceed legal weight limits as set forth under Title 56, Chapter 5, Article 33 of the South Carolina Code of Laws, 2006, as amended.

Roadway

The following items shall be included in the work:

1. Clear Zone:

CONTRACTOR shall provide adequate clear zone throughout project as defined in Exhibit 4a. In areas where new right-of-way or wetland impacts would be a result of achieving the clear zone requirement, substandard areas may be corrected or protected.

2. Pavement:

The design for pavement shall be selected from the designs listed in Exhibit 4c. The selected design shall be used throughout the length of the project.

3. Traffic:

- a) Pavement Markings: Provide durable pavement markings and surface mounted raised pavement markers throughout the limits of the project. Striping materials will be determined by the type of roadway surface as described in Exhibit 4d. Apply line widths and patterns in accordance with the Standard Drawings.
- b) Signs: Provide and install all permanent signing within the project limits as described in Exhibit 4d including the required advanced signs for interchanges that may be located beyond the project limits. The CONTRACTOR shall provide signing plans and sign layouts for SCDOT approval prior to ordering any materials. Traffic signing shall be in accordance with requirements of the 2009 MUTCD.

4. Guardrail:

Replace all existing mainline guardrail, ramp guardrail, and end treatments within the project limits. New guardrail shall be added where necessary in order to meet current design standards. The CONTRACTOR shall place a concrete curb in front of all new guardrail posts. The location and dimension for the concrete curb are shown in SCDOT Standard Drawing 803-105-00. The dimensions of the concrete curb shall be as detailed in Attachment B. Use a minimum of Class 3000 concrete for all curbs in front of guardrail in place of bituminous material. CONTRACTOR shall pave the entire shoulder width in front of all new guardrail utilizing the mainline pavement design shown in Exhibit 4c. Instead of keying the curb into the pavement, the concrete curb may be constructed directly on the asphalt surface course. The curb shall be connected using 12" long by ½" diameter steel dowels with 10.5" embedment into the pavement at 5 foot intervals. The curb shall have tooled crack control joints at 50 foot intervals and Preformed Rubber Joint Filler (per QPL 81) expansion joints at 100 foot intervals.

5. Maintenance of Existing Roadway:

From NTP #2 until substantial completion, the CONTRACTOR shall maintain the existing roadway in accordance with SCDOT Standard Specifications for Highway Construction.

6. Removal/Abandonment of Existing Roadway:

The CONTRACTOR shall at a minimum comply with the Reclaiming Existing Roadway Special Provision in EXHIBIT 5. If existing fill/embankments are used in the final design, the soils shall meet the requirements of EXHIBIT 4f.

7. Roadway Alignment:

The new centerline alignment for the new roadway and bridges shall be located 55 feet upstream of the existing centerline alignment as shown in the Environmental Assessment and FONSI in Attachment B.

Drainage and Hydrology

- A. The minimum low steel (low chord) elevation of the bridge is generally the lowest elevation of the bottom of the girders or main supporting element of the superstructure (i.e. bottom of flat slab). However, if other components, such as a pipe as part of a closed drainage system, encroach below the bottom of the girders, then the lowest elevation of the encroaching component will be considered the minimum low steel (low chord) elevation. The low chord elevation will be the constraint for setting the minimum finished grade at the bridge ends and the minimum vertical clearance above the navigable channel. Vertical clearance over the navigable channel will be 40 feet from the lowest part of the superstructure to Mean High Water (M.H.W.) elevation 3.0 (NAVD88).

EXHIBIT 3 – SCOPE OF WORK

Provide span lengths that meet or exceed the requirements detailed in Exhibit 4. Outside of the navigable channel, the minimum freeboard shall be 7 feet for the Great Pee Dee River Bridge and 4 feet for both the Yauhannah Lake and Great Pee Dee Overflow Bridges. Regardless of the established freeboard elevation, the new structures shall, at a minimum, maintain the existing bridge low chord elevation.

- B. Provide sufficient right of way that erosion control measures may be properly maintained during construction for all measures and after construction for permanent measures.
- C. ~~A closed drainage system on the bridges is required for this project and~~ All drainage improvements for the Project shall be carried out in accordance with all hydraulic and regulatory requirements Exhibit 4b & 4e. ~~The closed-bridge deck drainage system shall prohibit direct stormwater discharges into open water as defined in the Approved JD dated August 28, 2014 in Attachment B.~~ The CONTRACTOR shall implement appropriate best management practices and post construction stormwater treatment to provide a reasonable assurance that the proposed project will not contribute to impairments or degrade water quality.
- D. CONTRACTOR shall perform a hydraulic analysis and scour study, in accordance with the Department's "Requirements for Hydraulic Design Studies" dated May 26, 2009, to determine the required bridge length, grade, and span arrangement. Provide span lengths over the channel that meet or exceed the requirements detailed in Exhibit 4.
- E. CONTRACTOR shall install temporary slope drains on both sides of the road at all proposed bridge ends to accommodate stormwater runoff during construction.
- F. Temporary drainage design shall ensure no ponding in the travel lanes and shall ensure temporary drainage structures are positioned outside of the vehicle wheel path. The TTC plans shall include temporary drainage that is directly related to temporary traffic control.

Structures

The Project includes, at a minimum, the following items:

- A. Design and construction of the bridge replacements included on the Cost Proposal Bid Form included as Exhibit 1. Design and construction of the bridge replacements in accordance with the criteria, specifications, and contract provisions.
- B. Provide bridge dimensions that meet or exceed the dimensions shown in the Design Criteria – Exhibit 4.
- C. Remove and dispose of the existing bridges and appurtenances in accordance with the SCDOT Standard Specifications for Highway Construction, Edition of 2007, related Special Provisions, and all applicable laws and regulations. The CONTRACTOR will be required to demonstrate through adequate surveying and reporting that substructures of existing structures and other obstructions have been removed within the right-of-way as required in Section 202.4.2 of SCDOT's 2007 Standard Specifications for Highway

EXHIBIT 3 – SCOPE OF WORK

Construction. ~~In addition,~~ The scope of work for this project includes the demolition, proper disposal, and stabilization of structures from the abandoned portions of US 701, including foundations and obstructions, with exception to those portions that require private property access. In conjunction with the Environmental Assessment's Cultural Resources Survey, SCDOT consultants performed a Phase I Underwater Archeological Survey which is included, for information only, in Attachment B. This survey included information about underwater obstructions in the vicinity of the project.

- D. Coordinate with the United States Geological Survey (USGS) regarding the removal and installation activities related to the storm-tide sensor brackets that are located on the existing bridge. USGS will be responsible for expenses of relocation of the brackets to the new bridge. The contact information for USGS is shown below:

John Shelton, Hydrologist
USGS – Southeast Area
720 Gracern Road
Columbia, SC 29210
Phone: (803) 750-6112
Email: jmshelto@usgs.gov

- E. Piers are disallowed within the area designated for navigation – Exhibit 4.
- F. The CONTRACTOR shall be responsible for removal and/or management of any underground structures or obstructions that are encountered during installation and construction of new foundation elements. In conjunction with the Environmental Assessment's Cultural Resources Survey, SCDOT consultants performed a Phase I Underwater Archeological Survey which is included, for information only, in Attachment B. This survey included information about underwater obstructions in the vicinity of the project.
- G. The CONTRACTOR shall comply with SCDOT Special Provision Monitoring of Construction-Related Earthborne Vibrations. In addition, the CONTRACTOR shall monitor the existing bridges and roadway approaches for settlement during construction. The CONTRACTOR shall prepare a plan for existing bridge and roadway settlement monitoring. The monitoring plan shall include data points and collection of elevation data at all existing bents and for a distance of 200 feet at each bridge approach in intervals of 50 feet. At the start of NTP #2, the CONTRACTOR shall record data at all points once per month. During vibration producing construction activities at any given local site, nearby points shall be continuously monitored by CONTRACTOR. The distance from any local site to nearby monitored points shall be defined in the CONTRACTOR's monitoring plan. The monitoring plan shall be submitted for SCDOT concurrence within 180 days after NTP #1.

The CONTRACTOR shall be responsible for remediation of settlement of the existing bridges that occurs anytime during all construction phases that include/require vibration producing activities. This settlement is not limited to those points that are actively being monitored in accordance with the CONTRACTOR's settlement monitoring plan. The

CONTRACTOR shall prepare a settlement remediation plan that is detailed sufficiently to comply with this requirement. The remediation plan must clearly describe these parameters to ensure that risk allocation of settlement between the CONTRACTOR and SCDOT is well-defined during all construction phases of this project. The remediation plan shall include schedules, durations, and types of potential vibration producing activities as well as durations for possible consolidation settlements that may occur after the activities are completed. Implementation of the settlement remediation plan cannot proceed until the plan is concurred with in writing by SCDOT. SCDOT intends to use the remediation plan to limit and define responsibilities related to settlement. SCDOT shall not hold the CONTRACTOR responsible for settlement caused by normal traffic loadings. The remediation plan shall be submitted 45 days prior to NTP #2. At any time, if settlement occurs simultaneously with vibration producing activities, the CONTRACTOR shall immediately stop those activities. The CONTRACTOR shall then submit a detailed plan for repair, perform the repairs at no cost to SCDOT and develop and submit for review a revised construction plan to address the vibration problems and minimize further damage.

Geotechnical

The following items, at a minimum, shall be included in the scope of work:

- A. As necessary, provide pile and drilled shaft dynamic and/or static load testing as outlined in the design criteria and in accordance with the project specifications and Special Provisions. The results shall be used to determine capacities of the associated foundation system.
- B. Design and construct any ground improvement needed to ensure that the approach embankments meet the resistance factors and performance limits outlined in the SCDOT Geotechnical Design Manual (GDM). Design and construction of the ground improvement shall be in accordance with the criteria, specifications, and contract provisions.
- C. CONTRACTOR shall instrument and monitor the approach embankments, as necessary, to ensure that the performance limits outlined in the GDM are met prior to construction of pavement sections.
- D. All geotechnical design and construction for the Project shall be carried out in accordance with Exhibit 4f.
- E. The Roadway Structure Operational Classification (ROC) is provided in **EXHIBIT 4f**.

Utility Coordination

The CONTRACTOR shall conduct sufficient site surveys to locate and identify all utilities that may be affected by the bridge replacement. The CONTRACTOR shall provide utility coordination, relocation services, and identify prior rights for the construction of the Project. The CONTRACTOR shall include in his bid, the cost of coordination services for all utilities that

may be affected. The cost of relocation of utilities with prior rights will be the responsibility of SCDOT. For any utility having prior rights, the CONTRACTOR will be responsible for developing the utility agreement for SCDOT approval. For those utilities where SCDOT has prior rights, the CONTRACTOR may exercise SCDOT's prior rights and require the utility company to bear the costs of relocation. CONTRACTOR shall comply with the utility coordination and relocation requirements set forth in Attachment A – Project Agreement.

Right of Way

The CONTRACTOR shall be responsible for any right-of-way acquisition required for the project, to include any relocations or permissions needed to accommodate slopes, drainage, permitting or any other Project requirements. The acquisition and all costs associated with the acquisition of additional right-of-way shall be included in the Total Project Cost by the CONTRACTOR. CONTRACTOR shall comply with right of way services and acquisition requirements set forth in Attachment A – Project Agreement. If additional right of way is necessary beyond what has been evaluated in the NEPA documentation, CONTRACTOR shall be responsible for any re-evaluation of the approved Environmental Documents. Information about present right-of-way widths adjacent to the Refuge is located in the Environmental Assessment Appendix A and Appendix B, page B-105.

~~In order to satisfy Section 4(f) as described in the Environmental Assessment, Page 59 and Appendix A, the CONTRACTOR shall prepare a technical memorandum/recommendation that provides appropriate certification for the value of Refuge replacement property which includes but is not limited to real estate appraisals and natural resources assessments of at least three (3) similar and available properties. The CONTRACTOR shall be responsible for coordinating with the Refuge to ensure that Section 4(f) requirements are satisfied. Based on this certification, SCDOT shall provide compensation to the Refuge.~~

In regards to property acquisition from the Refuge, necessary to construct the project, the CONTRACTOR shall (1) be responsible for all services and payment to the Refuge for the “just compensation” value of the property taken in accordance with Article VIII of the Agreement, and (2) assist SCDOT in complying with the Section 4(f) Agreement by providing all right of way services (excluding acquisition) necessary to identify substitution property of reasonably equivalent usefulness and location for the property taken. The CONTRACTOR shall provide SCDOT with appraisals of at least three available properties. The CONTRACTOR's services in (1) and (2) above shall be closely coordinated with SCDOT and shall be included in the Total Contract Price.

Upon acceptance of the CONTRACTOR's appraisals for substitution property, SCDOT will coordinate with the Refuge and be responsible for any further payments necessary to satisfy the 4(f) Agreement pertaining to property acquisition. ~~While SCDOT will bare this risk,~~ The CONTRACTOR shall not be entitled to any additional cost or time for any delays, inconveniences, or damages sustained as a result of SCDOT satisfying the requirements set forth in the Section 4(f) Agreement.

Work Zone Traffic Control

The Project shall contain at a minimum the following items:

1. Provide all necessary Traffic Control as required by the Standard Specifications, Supplemental Specifications, Standard Drawings for Road Construction, and Special Provisions.
2. Prepare and submit a Transportation Management Plan (TMP) and special provisions for SCDOT's acceptance prior to any construction activity. The TMP includes Temporary Traffic Control, Traffic Operations, and Public Involvement plans as detailed Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) latest edition and SCDOT policies including the Rule on Work Zone Safety and Mobility, the standard specifications and all addendums to the standard specifications, all supplemental specifications, the typical traffic control standard drawings for road construction and any special provisions included in this contract. All costs associated with the design, development, implementation, and maintenance of the TMP shall be the responsibility of the PROPOSER and will be included in the Total Project Cost. SCDOT shall review and accept the TMP prior to commencing any construction activities.
3. Temporary Traffic Control Plans shall be submitted to SCDOT for review a minimum of 15 SCDOT work days prior to beginning any work in the area. Plans shall include a description of the sequenced steps to be followed in implementing the plans, and will be developed at a scale of 1" = 50', unless otherwise agreed upon. Potential items for inclusion in a Temporary Traffic Control plan (TTC) will include but are not limited to lane closures, shoulder closures, road closures, traffic relocations, detours, traffic control devices, temporary pavement construction, temporary pavement markings, construction signing and sequencing notes, **and temporary drainage structure locations**. Maintain the number of travel lanes and all traffic movements, for the duration of the project unless otherwise approved by the Department. Design all aspects of the traffic control plan to consider lane widths, shoulder widths, clear zones, curves and reverse curves, lane shifts, taper lengths, lane drops, stopping sight distance, buffer areas, placement of traffic control devices, etc. and to comply with the speed requirements of the roadway prior to initiation of the project or beginning the work or the implementation of a reduced speed limit due to a previous road defect. **Design and develop the Temporary Traffic Control plan (TTC) with a design speed that equals the posted regulatory speed limit of the roadway prior to beginning the work. Temporary speed limit reductions may be considered and submitted to the Department for review. Temporary drainage design shall ensure no ponding in the travel lanes and shall ensure temporary drainage structures are positioned outside of the vehicle wheel path.** On roadways with original travel lane widths of 11 feet or greater prior to beginning work, the travel lane widths may be temporarily reduced by no more than 1 foot if deemed necessary and approved by the Department. Maintain minimum temporary travel lane widths of no less than 11 feet on interstate and intermediate to high speed primary routes.

Minimize shoulder width reductions. On roadways with paved shoulders, maintain a minimum total width of paved shoulder area no less than 5 feet wide with a minimum 3-foot / 2-foot split between each paved shoulder; provide a minimum width of 2 feet of paved

shoulder on one side of the travel way with a minimum width of 3 feet of paved shoulder on the other side of the travel way. On bridge structures, maintain a minimum total width of shoulder area no less than 4 feet wide with a 2-foot / 2-foot split between each shoulder; provide no less than 2 feet of shoulder width on each side of the travel way.

A separation of adjacent travel lanes in the same direction of travel shall require approval by the Department. If a separation of adjacent travel lanes in the same direction of travel is approved by the Department, the approved separation of travel lanes shall not exceed one separation event per direction.

4. The CONTRACTOR shall execute all Traffic Control in accordance with Exhibit 4d – Part 2.

Environmental

The CONTRACTOR shall give extra attention throughout his operations to minimizing impacts to the environment. As a minimum the CONTRACTOR shall include the following in the Project:

- A. SCDOT has prepared the necessary environmental documents consistent with the NEPA process including any necessary studies. The project has been advanced through the environmental phase with the approval of an Environmental Assessment and a subsequent Finding of No Significant Impact (FONSI), a copy of which is included in Attachment B. In preparing the environmental documentation, SCDOT has made certain assumptions regarding project construction. If the PROPOSER elects to construct the project in a manner that is not consistent with the assumptions in the SCDOT prepared environmental documents, the PROPOSER will be responsible for preparing any necessary environmental re-evaluation and providing any additional studies that may be required. All revisions to or re-evaluations of the environmental documents will require SCDOT and FHWA approval prior to any construction activity. It is the PROPOSER'S responsibility to comply with all commitments listed in the environmental documents.
- B. The CONTRACTOR will be responsible for obtaining any permits required by federal, state, or local laws or regulations. All work, including additional cost and time associated with any permit or permit modification as a result of changes proposed by the CONTRACTOR shall be the CONTRACTOR's responsibility. The CONTRACTOR will not be entitled to any additional cost or time associated with obtaining any permit required. CONTRACTOR will be responsible for obtaining any permits required by federal, state, or local laws or regulations.
- C. For those permits that must be submitted in the name of SCDOT, the permit applications shall be forwarded to SCDOT for review and submission. Coordination with agencies must be routed through the SCDOT Environmental Management Office. The CONTRACTOR shall stake out and delineate the jurisdictional areas in accordance with the preliminary jurisdictional determination issued by the USACE, and OCRM's approved Critical Line plat, and the project Special Provisions. It is anticipated that a United States Coast Guard Bridge Permit, Section 404 Permit, Coastal Zone Consistency Determination,

EXHIBIT 3 – SCOPE OF WORK

and a Section 401 Water Quality Certification are required and shall be the responsibility of the CONTRACTOR to obtain.

- D. ~~All costs of obtaining the permits, including any updates to the jurisdictional determination and mitigation required by permits, shall be the responsibility of the CONTRACTOR and included in the Total Project Cost.~~ The CONTRACTOR shall prepare and submit to SCDOT a mitigation plan in conjunction with the Section 404 permit package. The mitigation plan shall be prepared in accordance with the USACE Charleston District's ~~Standard Operating Procedures (SOP) guidelines for mitigation. SCDOT will provide up to 219 wetland mitigation credits at no cost to the CONTRACTOR. The CONTRACTOR shall be responsible for any mitigation costs related to impacts exceeding 219 wetland mitigation credits. At the time of issuance of this RFP, the USACE guidance indicates that any temporary impacts that remain in place longer than one year require mitigation.~~

SCDOT will provide compensatory wetland mitigation from an approved mitigation bank not to exceed the amounts and types of impacts identified in the NEPA document for the preferred alignment. If additional mitigation is required, the CONTRACTOR is responsible for the additional wetland mitigation and associated costs.

- E. All work associated with any permit modifications as a result of changes proposed by the CONTRACTOR shall be the CONTRACTOR's responsibility. The CONTRACTOR will not be entitled to any additional cost or time associated with obtaining any permit required as a result of CONTRACTOR design change, except as provided in Article IX - Permits in Attachment A – Project Agreement.
- F. The CONTRACTOR shall provide an Environmental Plan for the Project. The plan shall be submitted to SCDOT for approval prior to any construction activity. The plan shall identify specific measures that the CONTRACTOR will implement to assure compliance with all environmental documents, permits, and other environmental commitments as may be detailed in the contract documents. The plan shall also designate specific personnel that are charged with carrying out monitoring and compliance activities included in the plan. The plan shall include necessary coordination with the Refuge Manager involving, but not limited to, Environmental Commitment Numbers 3, 6, 7, 8, 12, 13, & 14 as shown in Exhibit 8.
- G. The CONTRACTOR shall fulfill all Environmental Commitments in Exhibit 8.
- H. All jurisdictional areas not to be impacted should be delineated/identified for protection by temporary barrier fencing as per instructions identified in Instructional Bulletin dated March 14, 2013. ~~The approved approximate Jurisdictional Determination expires in January 2015. SCDOT will obtain an updated Jurisdictional Determination prior to NTP #1. SCDOT will provide the Jurisdictional Determination request package via addendum.~~
- I. ~~Regarding Environmental Commitment Number 14, Item c, the CONTRACTOR shall refer to EXHIBIT 3, Right of Way and EXHIBIT 8. prepare a technical memorandum/recommendation for mitigation of Section 4(f)/6(f) impacts to the Refuge. The CONTRACTOR's recommendation shall include locating, appraising, and assessing~~

natural resources on at least three (3) similar and available properties. SCDOT will be responsible for the cost of mitigation of Section 4(f)/6(f) impacts to the Refuge. The CONTRACTOR shall be responsible for coordinating with the Refuge to ensure that Section 4(f) requirements are satisfied.

- J. Regarding construction access, at the time of issuance of this RFP, the USACE Charleston District's guidance indicates that temporary haul roads and/or causeways shall not be used are not preferred, but work trestles, barges, and timber mats are acceptable. The CONTRACTOR shall avoid the vegetated buffer area adjacent to and surrounding Cowford Lake which is on the downstream side of the project in Horry County. Details of this area are noted in the EA and EA Appendix A.

Partnering

SCDOT values a partnering approach on projects and as such this project will require regular Partnering Sessions. The objectives are effective and efficient contract performance and completion within budget, on schedule, and in accordance with the contract requirements. The CONTRACTOR is to include the cost of partnering activities in the Total Project Cost. The cost of the partnering activities will be shared equally between the CONTRACTOR and SCDOT. The CONTRACTOR should anticipate two (2) Partnering Sessions for this Project.

Community Relations

The CONTRACTOR shall provide to SCDOT for review and written approval a Community Relations Plan as part of the Project. The Community Relations Plan shall describe how the CONTRACTOR will actively promote good relationships with local elected officials, the Waccamaw National Wildlife Refuge (WNWR), the news media, and the community at large. All costs associated with community relations will be included in the Total Project Cost. SCDOT will expect the CONTRACTOR to maintain positive communications with the local community (including public meetings as necessary), the adjacent property owners, and local businesses. The Community Relations Plan shall be submitted within 45 calendar days of NTP #1.

The CONTRACTOR shall outline a plan for communicating with the WNWR on matters such as, but not limited to, construction schedule, boat ramp closures, lane and/or road closures, and above mentioned Environmental Commitment compliance.

The Project includes compliance with Engineering Directive Memorandum Number 36, Public Notification of Bridge Replacement Projects. All public notification correspondence shall be prepared for the signature of the appropriate SCDOT Official as required by Engineering Directive Memorandum Number 36. The Contractor shall also regularly advise local media in advance of road closures and when the road is reopened to traffic.

Section 1
INTENT OF DESIGN CRITERIA

The CONTRACTOR will be expected to design and construct the project according to these design requirements.

Design criteria were established based on design speed, character and composition of traffic and width of right of way. These criteria were derived directly from the South Carolina Department of Transportation (SCDOT) Highway Design Manual and supplemented with AASHTO "A Policy on Geometric Design of Highways and Streets," 2001 Edition.

Section 2
DESIGN CRITERIA

The terrain on all routes within the scope of work shall be classified as level. A WB-62 design vehicle shall be utilized for all geometric design except where otherwise noted.

Route	Design Speed	Functional Classification to be used for design
US 701	60 mph	Rural Arterial
Boat Ramp Access Road	25 mph	Local (Group 2)
All Side Roads	25 mph	Local (Group 2)

The typical section shown in Figure 1 should be used for the project. **The Contractor shall crown the traveled way pavement at the centerline and use a cross slope of 2.08% away from the centerline on tangent sections.** The CONTRACTOR shall provide a right turn lane and left turn lane from US 701 into the WNWR entrance road with minimum 200' of right turn and left turn storage. **A S-BUS design vehicle shall be used for geometric design on the WNWR entrance road.**

Section 8

BOAT RAMP ACCESS ROAD (NEW LOCATION) AND BOAT RAMP DESIGN

The CONTRACTOR shall provide a new roadway that ties to US 701 providing access to the **new** boat ramp facility. The below minimum criteria must be met for the Boat Ramp Access Road.

- Paved Travel Lane Width – 12’ (1 entry lane, 1 exit lane)
- Unpaved Shoulder Width – 6’
- Vertical Clearance (Local Road Under) – 16’
- Horizontal Curvature – 205’
- Radius Returns – 40’
- Angle of Intersection - 70°-90°
- Design Vehicle – Passenger Car with boat trailer

The 25’ minimum tangent distance shown in Figure 15.2C of the HDM between the PC and the intersection is waived for the public access road alignment.

In the boat ramp facility parking and maneuvering area, at a minimum, the contractor shall provide 27 parking spaces (12’ x 50’) and shall provide appropriate maneuvering (24’ one-way lanes in parking area), make-ready (120’ storage), and tie-down (120’ storage) lanes. This may be accomplished by allowing vehicles to park/operate directly beneath the new bridge. As shown in Attachment B file “CP 17-22 Boat Ramp Horry” dated April 30, 2012, parking spaces, medians, and make-ready and tie-down lanes shall be marked with permanent pavement markings and signs. The parking and maneuvering area pavement design shall meet Exhibit 4c. ~~The CONTRACTOR shall construct a new boat ramp facility at the Pee Dee River crossing in Horry County.~~ The existing pavement structure for the boat ramp and parking facility may be retained and incorporated in the final design if there is no conflict with the new bridge foundations and/or substructure, however the floating dock is deficient and must be replaced. If retained, the existing asphalt pavement shall be overlaid with 200 PSY of HMA Surface Course Type B, minimum.

If the contractor elects to keep the existing ramp, any damage caused by the contractor shall be repaired prior to allowing public access. The new ramp, **dock**, and parking area design shall meet

EXHIBIT 4a – ROADWAY DESIGN CRITERIA

all Department of Natural Resources Standard Construction Drawings shown in **Attachment B**.
~~The number of parking spaces shall be at least the amount that can fit within the footprint of the existing parking area along with appropriate maneuvering, tie-down, and make-ready lanes. The length and width of the dock and boat ramp shall be at least the same as existing.~~—The CONTRACTOR shall coordinate with the South Carolina Department of Natural Resources (SCDNR) and Horry County prior to any ramp or parking area constructions **for final approval**. Contact information is shown below:

Tim Vinson
SCDNR, Engineering & Boating Access Div.
1000 Assembly Street, Columbia, SC 29201
Phone: (803) 206-2373
Email: VinsonT@dnr.sc.gov

Andy Markunas, P.E., Deputy County Engr.
Horry County Government, Engineering
4401 Privetts Road, Conway, SC 29526
Phone: (843) 915-5160
Email: markunaa@horrycounty.org

The ramp, access road, and parking area shall be shown and included as an integral part of the roadway design and roadway plans and detail sheets. The Port Harrelson Boat Ramp can be used as an alternate access during the construction of the new ramp facility. **Otherwise, the CONTRACTOR shall ensure minimal disruption to the facility during construction. The Transportation Management Plan shall include provisions for maintaining access to the boat ramp facilities.**

PROJECT SPECIFIC REQUIREMENTS

Proposed Bridges

The CONTRACTOR shall construct three (3) bridges that provide the proposed lengths as shown in the FONSI. The minimum new bridge centerline lengths are shown below:

- Yauhannah Lake Bridge – 1,453 feet
- Great Pee Dee River Bridge – 1,770 feet
- Great Pee Dee Overflow Bridge – 1,370 feet

Navigational Clearances

The Great Pee Dee Bridge shall provide a horizontal clearance of no less than 120 feet centered about the navigational channel. A minimum of 40 feet of vertical clearance (above M.H.W. elevation 3.0 NAVD88) shall be maintained within this zone. Clear horizontal navigational clearance of a minimum of 120 feet, measured from channel face of pier to channel face of pier.

The main channel span clear vertical navigation clearance shall be of no less than 40 feet vertical clearance above M.H.W. elevation 3.0 NAVD88 across the entire limits of horizontal clearance specified herein. The vertical clearance of the navigational channel

Vessel Collision Analysis Criteria

1. General Requirements

A vessel collision analysis shall be performed in accordance with Section 3.14 of AASHTO and AASHTO Vessel Collision Design of Highway Bridges, 2nd Edition, 2009, with 2010 Interim revisions.

In utilizing AASHTO Section 3.14, the Method I Acceptance Criteria shall be used for the analysis and shall adhere to the Bridge Operational Classification of “Critical/Essential”. Method II shall not be used.

Dynamic analysis techniques that take into account force-deformation, or other dynamic interaction, between the collision vessel and bridge structure during collision shall not be used.

A fender system shall not be installed.

2. Collision Analysis

The vessel collision analysis shall, as a minimum, take into consideration the following two collision events:

Event 1 – Drifting empty barge impacting vulnerable bridge elements. The vessel impact loads shall be combined with one-half of the predicted long-term scour plus one-half of the predicted short-term scour. This event shall correspond with the 100-yr flood event.

Event 2 – Ship & Barge tow impacting vulnerable bridge elements while in transit. The vessel impact loads shall be combined with one-half of the

predicted long-term scour, with no short-term scour. This event shall correspond to the MHW elevation 3.0 and yearly mean current.

The long-term and short-term scours shall be as defined in the AASHTO Vessel Collision Design of Highway Bridges Guide Specification.

Based on the channel vertical clearance that is being provided, superstructure vessel collision forces do not need to be considered.

3. Design Vessel

The design vessel shall be a single Small Deck Barge (45 ft x 120 ft) with an empty displacement of 250 tons. Draft when empty shall be assumed to be 1.50 ft.

In addition, the loaded barge shall have a maximum displacement tonnage of 400 tons. Draft when loaded shall be assumed to be 3.5 ft on the stern and 1.5 ft at the bow (rake). Assume the head log height to be 3 feet, the vessel depth to be 7 feet, the depth of bow to be 7 feet, and the bow rake length to be 10 feet.

Towboat shall be assumed to be a Harbor Boat (<600 horsepower) with a size of 20 ft x 50 ft. Towboat shall have an assumed draft of 6.5 ft and a gross displacement tonnage of 60 tons. Speed of combined vessels under power shall be assumed to be 6 knots, not including water velocity. Vessel impact speed may be distributed in accordance with the AASHTO Guide Specifications for Vessel Collision Design of Highway Bridges.

Bridge Width

The minimum bridge width for all three (3) new bridges shall be 44 feet inside of the barriers such that the typical section shall provide for two (2) 12 feet travel lanes and two (2) 10 feet shoulders.

Final Finish of Exposed Concrete Surfaces

~~No final surface finish is required.~~

The CONTRACTOR shall apply the final surface finish on the bridges to the following designated bridge areas:

- A) Entire surface of all barrier rails, parapet walls, approach slab curbs, concrete utility supports, and wing walls; outside vertical edge of bridge deck slabs and sidewalks.
- B) Outside face of exterior prestressed girders.
- C) Entire surface of all substructure units except top of bent caps and

piers.

Stay-in-place Bridge Deck Forms

Permanent stay-in-place steel bridge deck forms for concrete deck slabs may be used at the Contractor's option. Fillers shall not be used in the flutes of the stay-in-place forms. Form flutes shall be filled with concrete as the deck slab is placed.

Bridge Decks

Bridge decks supported by girders or beams shall be reinforced cast-in-place concrete with reinforcing steel. All bridge decks shall comply with the rideability requirements of Subsection 702.4.14.1 of the Standard Specifications. The Contractor shall be responsible for coordinating with the SCDOT for scheduling the profilograph test, which is to be conducted by SCDOT.

Grooved Surface Finish

A Grooved Surface Finish shall be applied to all concrete decks in accordance with Subsection 702.4.16 of the Standard Specifications for Highway Construction.

Concrete Strengths

In prestressed concrete piles and beams, concrete strengths up to 8,000 and 10,000 psi maximum, respectively, may be used. All cast-in-place concrete bridge components shall be constructed with concrete having a minimum compressive strength of 4000 psi. All precast concrete bridge components shall be constructed with concrete having a minimum compressive strength of 5000 psi. Lightweight concrete shall not be allowed as outlined in Section 15.2 of the *SCDOT Bridge Design Manual*.

Superstructure Types

For this project, Section 12.3.3 of the *SCDOT Bridge Design Manual* shall not be used. Allowable superstructure types are outlined in Sections 12.3.2.1, 12.3.2.2, 12.3.2.3 and 12.3.2.4 of the *SCDOT Bridge Design Manual*.

If prestressed concrete girders are used as outlined in Section 12.3.2.1 of *SCDOT Bridge Design Manual*, they shall be either I-beams or modified bulb-tee beams. For prestressed concrete beams, intermediate diaphragms shall be cast-in-place concrete for this project.

If structural steel girders or beams are used as outlined in Sections 12.3.2.3 or 12.3.2.4 of *SCDOT Bridge Design Manual*, they shall be “I” shaped.

Bridge deck overhangs shall follow Section 12.2.5.5 of the *SCDOT Bridge Design Manual*.

For both steel and concrete, deflections and span-to-depth ratios shall comply with Section 12.2.2 of the *SCDOT Bridge Design Manual*.

The ends of all beams or girders, including both steel and concrete, shall be connected to the substructure with anchor bolts.

Substructures

Interior Bents shall consist of cast-in-place reinforced concrete bent caps and columns supported on cast-in-place reinforced concrete drilled shafts or prestressed concrete pile footings. For footings not located in water, the top of footings shall be set at or below the natural ground elevation.

Interior Pile Bents shall consist of cast-in-place bent caps and a single row of vertical prestressed concrete piles. Interior Pile Bents shall have a sixty foot maximum spacing between bents.

Interior Pile Bents shall not be used for the US 701 Bridge over the Great Pee Dee River or the US 701 Bridge over Yauhannah Lake.

~~Interior Pile Bents shall not be used if debris is an issue, see BDM 20.3.5.~~

End abutment shall be spill through type abutments (2:1 maximum slope).

Bent caps may be sloped as outlined in Section 20.1.7 of *SCDOT Bridge Design Manual*.

Integral Interior Bent Caps

If required on this Project, integral interior bent caps shall be constructed of concrete.

Foundation Design

Bridge spread footings will not be permitted. Deep foundations are required to extend below any compacted fill.

Pile Sizes and Types

Minimum pile sizes and acceptable pile types are listed below. No other pile types will be permitted.

Pile Type	Minimum Size
Steel H-Piles	HP12x53
Steel Pipe Piles	12 inch diam. (min. wall thickness equal to ½ inch)
Prestressed Concrete Piles	18 inch square
Prestressed Concrete Pile Points	W8x58

Dynamic Load Testing With Pile Driving Analyzer and Static Load Testing

The CONTRACTOR will be responsible for dynamic and static load testing of all foundations if required by design. For Pile Driving Analysis (PDA) testing, the CONTRACTOR shall select a testing firm from those firms currently approved to provide foundation testing services on SCDOT’s foundation testing on-call contract. Load test reports shall bear the legible seal, date, and signature of the testing firm’s engineer, who shall be registered as a Professional Engineer in the State of South Carolina. The CONTRACTOR’S designer shall review and approve all load test reports prior to submitting the reports with his written approval to SCDOT for review and concurrence. The CONTRACTOR shall submit three copies of each report to SCDOT. SCDOT will review the load test reports and provide either concurrence or comments. Comments must be reviewed by the CONTRACTOR’S designer prior to resubmittal to SCDOT.

Steel Pipe Pile Connection Details

If the Contractor elects to utilize steel pipe piles, the pile connection detail described in Item 2 of Section 19.2.6.3 of the *SCDOT Bridge Design Manual* shall not be used for this Project. Steel pipe piles shall be terminated at the bottom of the cap or footing and the piles must be connected to the bent cap using a reinforced concrete infill, with the reinforcing extending into the cap or footing.

Post Tensioning

Grouting of post-tensioning ducts shall be performed within (7) days of post-tensioning. Specifications for all grout and conduit shall be submitted to

SCDOT for approval prior to use. External post-tensioning and substructure post-tensioning shall not be used.

Cross-Hole Sonic Logging (CSL) Testing

Cross-hole sonic logging (CSL) access tubes shall be installed in all drilled shafts in accordance with the *Standard Specifications for Highway Construction*. CSL testing will be conducted by SCDOT on all of the shafts.

Barrier Parapets

The SCDOT 32-in concrete bridge barrier parapet with bicycle railing to 42-in height shall be used. See Item #1 in Section 17.6.3 of the Bridge Design Manual along with DM0113. The SCDOT Standard Barrier parapet Transition shall be used at all barrier ends where a three beam guardrail bridge connector is required.

Slope Protection

Provide slope protection for the bridge end fills. The end fills at the ends of the bridge shall be protected with rip rap in accordance with Standard Drawing 804-105-00.

Longitudinal Restrainers

If longitudinal joint restrainers are used, they shall be considered secondary and minimum support lengths shall be provided in accordance with the *SCDOT Seismic Design Specifications for Highway Bridges*.

Seismic Isolation Bearings

Seismic isolation bearings shall not be used for this project.

Navigational Lighting

Navigational Lighting is not required. If required in stipulations of the USCG Bridge Permit, Navigation Lighting shall be installed provided on the channel span as per AASHTO and USCG standards. See special provision titled *Navigation Lights for Bridge* in **Exhibit 5** for additional requirements.

Navigational Channel

No obstructions are allowed in the navigational channel of the Great Pee Dee River. The navigational channel is shown in the 1996 bridge repair plans (File number 22.5696.1) and is between Piers E-E and F-F. While the 1996 bridge repair plans (File number 22.5696.1) show the navigational channel between Piers E-E and F-F, the contractor shall provide a survey and shall coordinate with the USCG to verify the current location of the navigational channel for the main (120 foot) span. Any variation in the location of the navigational channel from the

~~1996 bridge plans is subject to USCG approval.~~ Existing horizontal clearance must be maintained at the channel during construction to accommodate marine traffic.

Operational Classification

~~The Operational Classifications are provided in EXHIBIT 4f.~~ In accordance with the Seismic Design Specifications for Highway Bridges, the Bridge Operational Classification (OC) shall be “I.”

Bridge Deck Drainage

Any necessary bridge deck drainage in the form of “off-bridge” inlet protection and “on-bridge” scuppers shall be provided. ~~A closed drainage system will be required and~~ The bridge drainage shall be designed in accordance with SCDOT requirements. ~~If a closed drainage system is required to meet the design criteria and to obtain permits and certifications,~~ scuppers shall be connected to under deck collector pipes and the runoff shall be treated in accordance with Exhibit 4e, Hydraulic Design Criteria.

The appropriate design method shall be utilized depending on selection of rectangular or circular scuppers with downspouts. The scuppers shall be designed in a manner that allows integration into the bridge deck design and does not interfere with structural continuity. Surface grates and recessed collection chambers may be considered if structurally necessary. Inlets are to be sized as large as possible to allow for ease of maintenance. Inlet grates shall be designed for safe passage of bicycle traffic. Scuppers shall be a minimum of six inches in diameter (or equivalent cross sectional area).

Downspouts and collector pipes shall be fiberglass and shall be colored (not painted) to match the finished bridge color (Federal Color Standard No. 26600). Cleanouts shall be provided. No drains or discharge pipes shall be allowed inside of structural elements other than the bridge deck.

As a minimum, concrete flumes shall be provided at the end of the approach slabs as required to prevent erosion of the bridge fill slope. Alternative drainage structures such as roadway catch basins shall be provided where concrete flumes interfere with the closed system. Storm drainage pipes shall not be permitted under the approach slabs.

a) HYDROLOGY AND HYDRAULIC DESIGN

The CONTRACTOR will develop hydrologic and hydraulic designs for the bridge and follow all guidelines for roadway surface drainage and sediment and erosion control with the methods, procedures, and criteria outlined in the “SCDOT Requirements for Hydraulic Design Studies”, May 26, 2009, and all pertinent Design References located in Exhibit 4, Project Design Criteria.

~~At a minimum, all bridges shall maintain the existing bridge low chord, exceed the length and opening of the existing bridge, and span the main channel unless otherwise noted in the Project Design Criteria in Exhibit 4B.~~

Information provided in ATTACHMENT B is intended for use in the design of this project. The CONTRACTOR has the option to either utilize and update this provided information or to develop the CONTRACTOR’S own independent 1D model. If the contractor chooses to utilize the provided information then the CONTRACTOR shall verify that the data in the model is valid. All of the data that the contractor utilizes for the hydraulic analysis must be referenced in a signed and sealed Bridge Hydrology and Hydraulics Report. The CONTRACTOR shall verify that information provided in ATTACHMENT B being used to design this project meets the requirements for “SCDOT Requirements for Hydraulic Design Studies”, May 26, 2009, and all pertinent Design References located in Exhibit 4, Project Design Criteria. ~~The CONTRACTOR shall confirm the use of any previously prepared reports by providing a statement sealed by the CONTRACTOR’s engineer of record describing and certifying items being used.~~ If the RFP requirements are not met, then the CONTRACTOR shall provide all additional work necessary to meet the requirements for this specific project.

b) HYDRAULIC MODELING

The CONTRACTOR shall prepare ~~will utilize~~ a HEC-RAS 1-D study of the hydrologic/hydraulic characteristics of the ~~natural, existing, and proposed conditions, bridge supplied by the Department.~~ The CONTRACTOR ~~will shall~~ determine the beginning and end stations, finished grade elevations and optimal span configurations for the new bridges based on this study. The CONTRACTOR ~~will shall~~ also perform a two-dimensional model hydraulic analysis of the three bridges. The model shall include analysis of existing conditions which shall be calibrated using USGS gage data (or some other acceptable data) and shall include analysis of proposed conditions. In the study, the CONTRACTOR shall include model results for the appropriate storm events at the proposed bridge location. The CONTRACTOR ~~will shall~~ present a summary of their data collection, findings and proposed design procedure to the DEPARTMENT for review and comment prior to finalizing the design. Prior to setting the final roadway/bridge profile and submitting the preliminary Right-of-Way Plans, the CONTRACTOR shall provide model results and calculations that show the beginning and end stations, finished grade elevations and optimal span configurations for the new bridges. All hydraulic studies shall be approved by the DEPARTMENT.

In the vicinity (within 500’ upstream and downstream) of the proposed bridges, the required mapping shall include detailed stream cross-sections at minimum 100-foot intervals, and

ROADWAY OPERATIONAL CLASSIFICATION

In accordance with Bridge Design Memorandum DM0211, the Roadway Operation Classification (ROC) of the roadway embankments located within 150 feet of any of the US 701 Bridges over the Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow is “I”. All other roadway embankments located more than 150 feet from any of the bridges is “IV”.

Any existing embankment or portion of the existing embankment, incorporated into the new alignment shall be designed and valuated to meet the performance limits established in the GDM.

SITE VARIABILITY

In accordance with Section 7.5 of the GDM and using all deep (100 ft or greater) soil borings presented in the Geotechnical Base Line Report, S&ME, March 18, 2013 the Site Variability (SV) for the US 701 Bridges over the Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow is “Low”. However, SV is subject to change based on the results of the final geotechnical exploration conducted on the new alignment.

SEISMIC DESIGN

Three-Point Acceleration Design Response Spectrum (ADRS) curves have been supplied in this criterion, for the SEE and FEE design events. The ADRS curves are provided below and shall be used in the design of the embankments and bridge structure and are hereby incorporated into and made part of the contract documents.

A summary table of the applicable seismic coefficients is outlined below.

Latitude:	33.6622		Longitude:	79.1522	
Design EQ	PGA	S _{DS}	S _{D1}	M _w	R(km)
FEE	0.11	0.23	0.13	7.35	64.3
SEE	0.35	0.75	0.43	7.36	62.2

Based on shear wave velocity measurements at the site, the final seismic Site Class has been determined to be “D”.

EXHIBIT 8 – ENVIRONMENTAL INFORMATION

Commitment	EA Reference Page
4) The stipulations outlined in the letter to Horry County, dated October 22, 2012, regarding the Horry County public boat landing will be implemented by the Department. With the selection of the preferred alternative, the boat landing will be removed and relocated. But at times that are safe and practical, SCDOT maintains its previous commitment of keeping the existing or the relocated boat ramp accessible during construction.	Appendix B, Page B-113. <i>Interpretation for CONTRACTOR: the CONTRACTOR shall comply with the stipulations outlined in the letter to Horry County dated October 22, 2012. The CONTRACTOR shall coordinate with Horry County and SCDNR as noted in EXHIBIT 4a.</i>
5) The general conditions and specifications for an Individual Permit from the Corps of Engineers for wetland encroachment will be implemented. The permit will be obtained by the Department.	Page 40. <i>Interpretation for CONTRACTOR: the CONTRACTOR shall obtain and comply with the Individual Permit from the Corps of Engineers for wetland encroachment.</i>
6) The Contractor will utilize 2:1 slopes in wetland areas where appropriate, and reclamation of wetland areas temporarily lost through construction activities will involve returning disturbed areas to their original elevations to the extent practicable, allowing for adjacent vegetation to naturally reclaim the area.	Page 37. <i>Interpretation for CONTRACTOR: the CONTRACTOR at its own discretion may utilize steeper slopes to further minimize wetland impacts.</i> <i>Interpretation for CONTRACTOR, this commitment relates to temporary clearing in jurisdictional areas where ground is not grubbed.</i>
7) To mitigate for unavoidable wetland impacts, SCDOT will follow the Corps of Engineers SOPs to locate and acquire an appropriate property that will generate the compensatory mitigation credits required to compensate for unavoidable impacts associated with the proposed bridge replacements.	Page 37. <i>Interpretation for CONTRACTOR: SCDOT will make available provide up to 219 wetland mitigation credits at no cost to CONTRACTOR. CONTRACTOR shall be responsible for all mitigation costs. See Scope of Work</i>
8) SCDOT will comply with the intent of Presidential Executive Order on Invasive Species 13112, of February 3, 1999, by formulating a plan to actively re-plant native vegetation for all temporarily disturbed areas. The plan will include planting fast growing, locally native plant species to minimize the potential for establishment of aggressive, invasive species.	Page 38. <i>Interpretation for CONTRACTOR: the CONTRACTOR shall coordinate with the SCDOT's Environmental Service's Division and the Waccamaw National Wildlife Refuge to prepare and follow a plan that ensures compliance. This commitment relates to disturbed areas identified in the NPDES permit. The SCDOT seeding specification includes both native and non-native species.</i>
9) Coast Guard permit will be obtained	Page 40. <i>Interpretation for CONTRACTOR: The CONTRACTOR shall obtain and comply with the United States Coast Guard Bridge Permit.</i>



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
69A HAGOOD AVENUE
CHARLESTON, SOUTH CAROLINA 29403-5107

CB

August 28, 2014

RECEIVED

Regulatory Division

SEP - 5 2014

Mr. Sean Connolly
South Carolina Department of Transportation
P.O. Box 191, 955 Park Street
Columbia, South Carolina 29202-0191

Environmental Management
SCDOT

Dear Mr. Connolly:

This is in response to your letter dated August 19, 2014, requesting a Preliminary Jurisdictional Determination (Preliminary) for a 63.96 acre project area, located along US 701 over the Great Pee Dee River in Georgetown and Horry Counties, South Carolina. The project area is depicted on the enclosed sketches entitled "Bridge Replacement US 701 over Pee Dee River Horry/Georgetown Counties" and dated August 6, 2012. A preliminary jurisdictional determination is used to indicate that this office has identified wetlands or other waters on the property and believes these waters may be jurisdictional waters of the United States. Since the Preliminary does not verify the actual jurisdictional status of wetlands and/or waters of the United States on the property, it relies on the presumption of jurisdiction for the purpose of expediting the request for a Preliminary.

Based on an a review of the previous wetland delineation issued on January 7, 2010, aerial photography, topographic maps, National Wetland Inventory maps and soil survey information, it has been concluded that the boundaries shown on the referenced sketches are a reasonable approximation of the location and boundaries of the waters found on this site. The area in question contains approximately 38.84 acres of federally defined freshwater wetlands or other waters. You are cautioned that this delineation is approximate, subject to change, and should be used for planning purposes only. This office should be contacted prior to performing any work in or around these wetlands or other waters. In order for a definitive determination to be provided, these areas should be located and marked on-site, sketched or surveyed, platted on a map, and should be accompanied by a request for an Approved Jurisdictional Determination. Upon receipt of such a request, this office can then issue an approved determination as to jurisdiction (rather than the presumption of jurisdiction). You should also be aware that the areas identified as wetlands or other waters may be subject to restrictions or requirements of other state or local government entities.

Please note that since this jurisdictional determination is a Preliminary, it is subject to change and therefore is not an appealable action under the Corps of Engineers administrative appeal procedures defined at 33 CFR 331. If a permit application is forthcoming as a result of this Preliminary, a copy of this letter, as well as the attached sketch or plat should be submitted as part of the application. Otherwise, a delay could occur in confirming that a preliminary jurisdictional determination was performed for the permit project area.

This preliminary jurisdictional determination is a non-binding action and as such has no expiration until it is superseded by an Approved Jurisdictional Determination. If you intend to request an Approved Jurisdictional Determination in the future, you are advised not to commence work in these wetlands and/or waters prior to receiving the Approved Jurisdictional Determination.

In future correspondence concerning this matter, please refer to SAC 2009-1107. You may still need state or local assent. Prior to performing any work, you should contact the South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management. A copy of this letter is being forwarded to them for their information.

Enclosed are two copies of the Preliminary Jurisdictional Determination Form signed by our office. Please sign both copies, retain one copy for your records and return one signed copy to this office in the enclosed self-addressed envelope.

If you have any questions concerning this matter, please contact Elizabeth Williams at 843-329-8044 or toll free at 1-866-329-8187.

Sincerely,

A handwritten signature in black ink, appearing to read 'Travis G. Hughes', written over a horizontal line.

Travis G. Hughes
Chief, Special Projects Branch

Enclosures
Preliminary Jurisdictional Determination Form

Copy Furnished:

South Carolina Department of Health
and Environmental Control Office of
Ocean and Coastal Resource Management
1362 McMillan Avenue, Suite 400
Charleston, South Carolina 29405

Mr. Chris Beckham
SC Department of Transportation
Post Office Box 191
Columbia, South Carolina 29202

Feature	Area (ac)	Length (LF)	Location
Wetland 1	2.35		33.669658, -79.152554
Wetland 2	16.84		33.669497, -79.142012
Wetland 3	14.5		33.659658, -79.156015
TNW 1	1.66	366	33.654420, -79.163376
TNW 2	3.49	327	33.660256, -79.154394

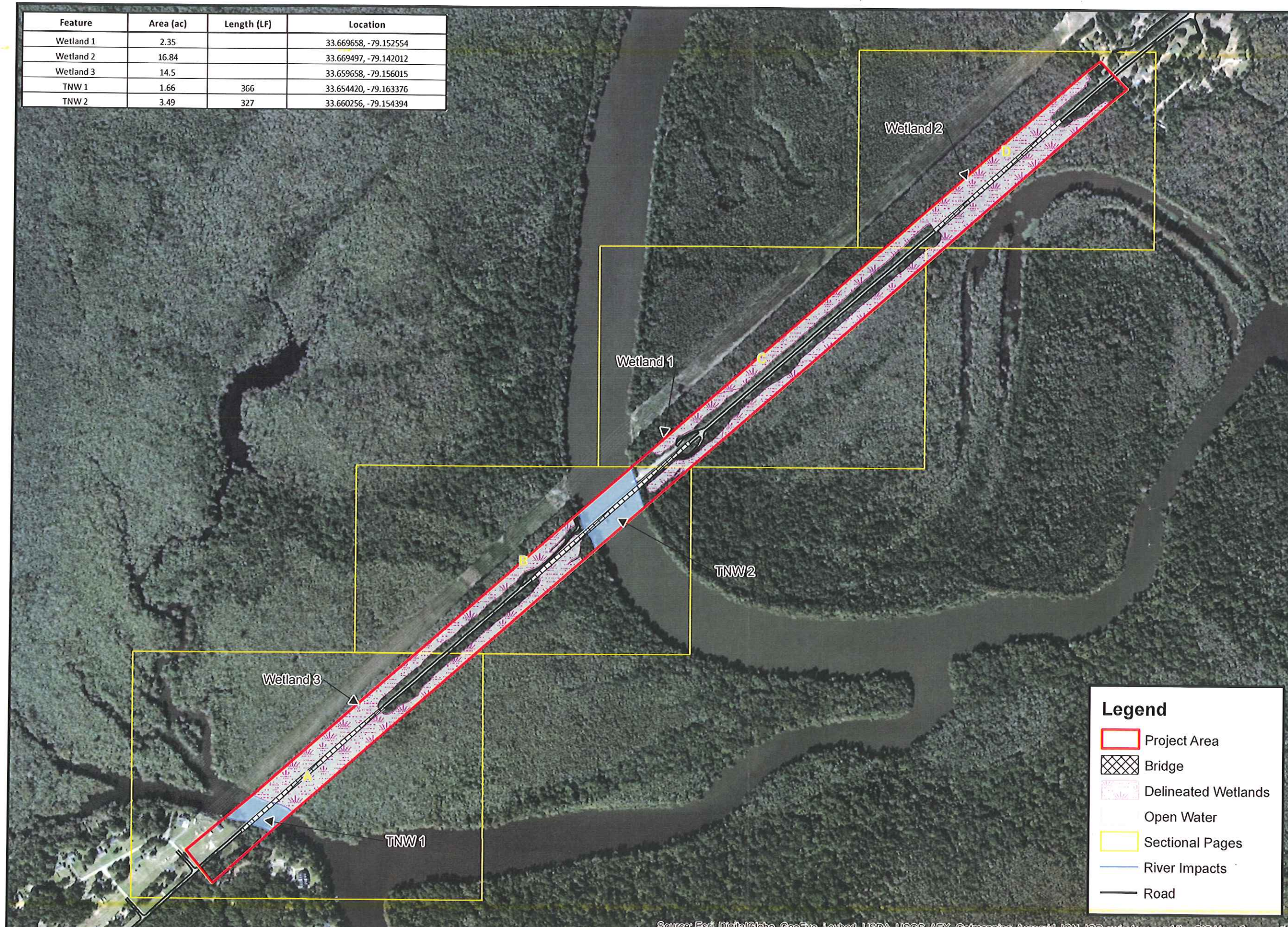


Figure 5: Jurisdictional Features with Data Points

Bridge Replacement
US 701 over Pee Dee River
Horry/Georgetown Counties

Legend

- Project Area
- Bridge
- Delineated Wetlands
- Open Water
- Sectional Pages
- River Impacts
- Road

Date: August 6, 2012

PIN: 30684X

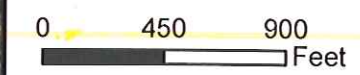




Figure 5A: Jurisdictional Features with Data Points

Bridge Replacement
US 701 over Pee Dee River
Horry/Georgetown Counties

Legend

- Project Area
- Bridge
- Delineated Wetlands
- Open Water
- River Impacts
- Road
- Data Point

Date: August 6, 2012

PIN: 30684X

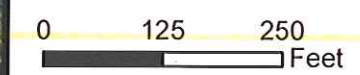




Figure 5B: Jurisdictional Features with Data Points

Bridge Replacement
US 701 over Pee Dee River
Horry/Georgetown Counties

Legend

- Project Area
- Bridge
- Delineated Wetlands
- Open Water
- River Impacts
- Road
- Data Point

Date: August 6, 2012

PIN: 30684X

N
↑
↓

0 110 220
Feet

Source: Esri, DigitalGlobe, GeoEye, iSat, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Figure 5C: Jurisdictional Features with Data Points

Bridge Replacement
US 701 over Pee Dee River
Horry/Georgetown Counties

Legend

- Project Area
- Bridge
- Delineated Wetlands
- Open Water
- River Impacts
- Road
- Data Point

Date: August 6, 2012

PIN: 30684X

N

0 125 250
Feet

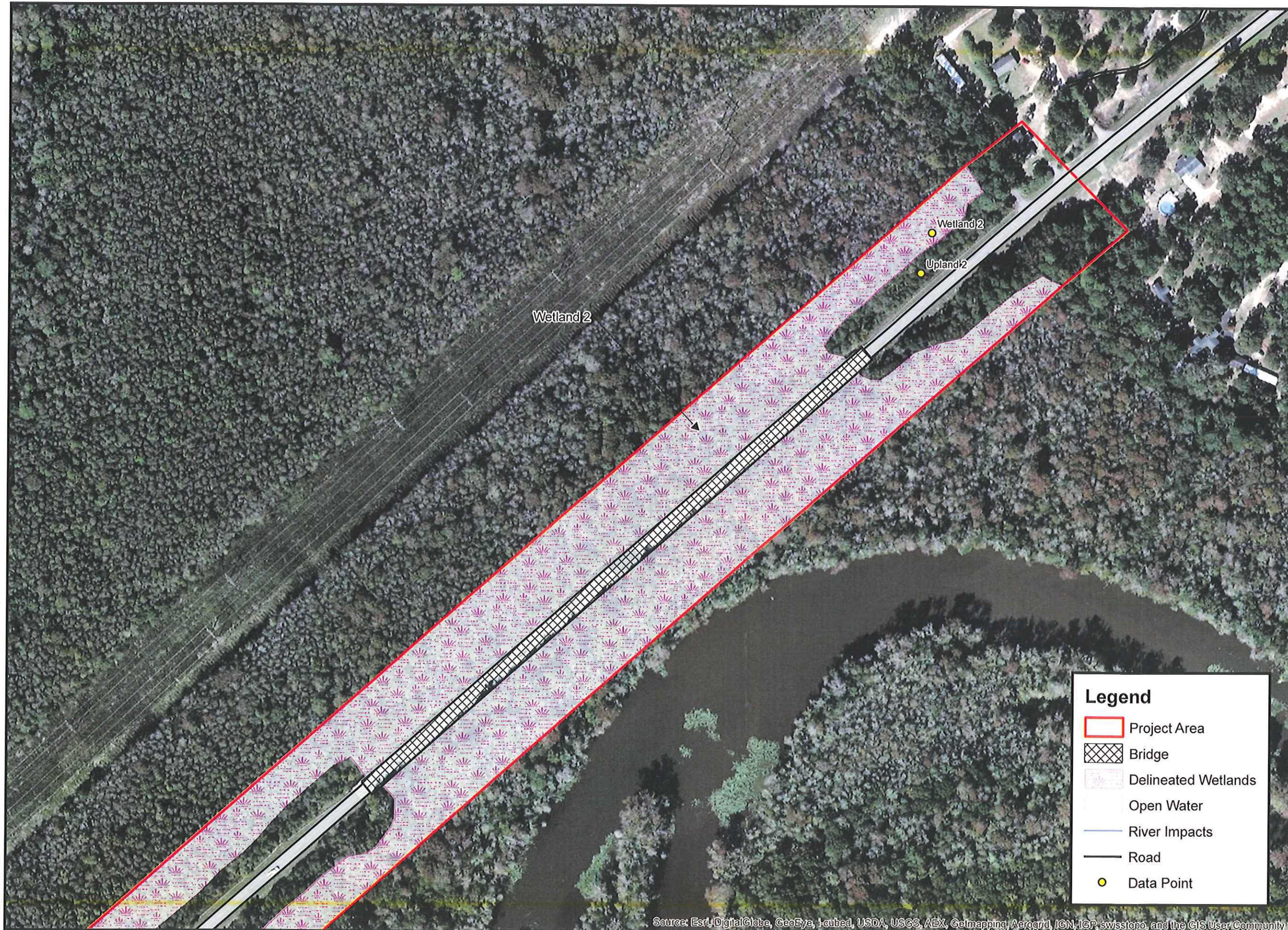


Figure 5D: Jurisdictional Features with Data Points
Bridge Replacement
US 701 over Pee Dee River
Horry/Georgetown Counties

Legend

- Project Area
- Bridge
- Delineated Wetlands
- Open Water
- River Impacts
- Road
- Data Point

Date: August 6, 2012
PIN: 30684X

N
↑
↓

0 110 220
Feet

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): SAC 2009-01107, August 28, 2014

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
SCDOT, PO Box 191, Columbia SC 29202

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:SAC 2009-1107, US
701 Bridge Replacements over the Great Pee Dee River

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: SC County/parish/borough: Georgetown and Horry County

City: Between Georgetown and Conway

Center coordinates of site (lat/long in degree decimal format): Lat.

33.6602526°N, Long. -79.154394°W.

Universal Transverse Mercator:

Name of nearest waterbody: Great Pee Dee River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: linear feet: width (ft) and/or 5.15 acres.

Cowardin Class: River/ open water

Stream Flow:

Wetlands: 33.69 acres.

Cowardin Class: PFO

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: 5.15

Non-Tidal:

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

Office (Desk) Determination. Date: 8-28-14

Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to

request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

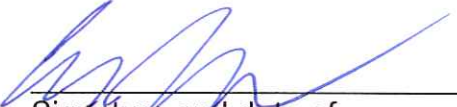
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply


- checked items should 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 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: Great Pee Dee River.
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:
- USDA Natural Resources Conservation Service Soil Survey. Citation: Horry & Georgetown Counties.
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Imagery, SCDNR '99 and '06 Infrared photographs.
or Other (Name & Date): Site photographs by Siceloff provided in JD request package.
- Previous determination(s). File no. and date of response letter: SAC 2009-1107, dated January 7, 2010.
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.



 Signature and date of
 Regulatory Project Manager
 (REQUIRED)

 9/8/14

 Signature and date of
 person requesting preliminary JD
 (REQUIRED, unless obtaining
 the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Wetland 1	33.669474	-79.152554	PFO	2.35ac	non-section 10 – wetland
Wetland 2	33.669497	-79.142012	PFO	16.84ac	non-section 10 – wetland
Wetland 3	33.659658	-79.156015	PFO	14.50ac	non-section 10 – wetland
TNW 1	33.654420	-79.163376	Open water	1.66ac	section 10 – tidal
TNW 2	33.660256	-79.154394	Open water	3.49ac	section 10 – tidal