Richland County Transportation Ad Hoc Committee

September 22nd, 2020 - 2:00 PM
Virtual Meeting
2020 Hampton Street, Columbia, SC 29201

1. CALL TO ORDER — The Honorable Paul Livingston

2. APPROVAL OF MINUTES — The Honorable Paul Livingston

a. Committee Meeting: July 28, 2020 **[PAGES 2-5]**

3. ADOPTION OF AGENDA — The Honorable Paul Livingston

4. ELECTION OF CHAIR — The Honorable Paul Livingston

5. ITEMS FOR INFORMATION

a. Projects In The Process Of Advertisement For Construction **[PAGES 7-86]**
1. Resurfacing Package R
2. Dirt Road Paving Package K
3. Faraway Dr. Sidewalk (Decker\Woodfield NIP)

b. Newly Approved Service Orders
1. Blythewood Rd. Area Improvements – Creech Rd. and McNulty St.
2. Crane Creek NIP

5. ITEMS FOR ACTION — The Honorable Paul Livingston

A. Polo Rd. Widening Service Order **[Pages 87-126]**

B. I-26 Widening Mitigation Credit Sales **[Pages 127-140]** C. Petition for Annexation of Richland County property Three Rivers Greenway/ Saluda Riverwalk **[Pages 141-144]**

D. Transportation Department Organization **[Pages 145-148]**

6. ADJOURNMENT

Richland County Council
Transportation Ad Hoc Committee
July 28, 2020 – 1:00 PM
Zoom Video Conference

COMMITTEE MEMBERS PRESENT: Calvin "Chip" Jackson, Chair; Paul Livingston, Bill Malinowski, Yvonne McBride and Dalhi Myers

OTHERS PRESENT: Chakisse Newton, Jim Manning, Michelle Onley, Kimberly Toney, Allison Steele, Jennifer Wladischkin, Leonardo Brown, John Thompson, Rasheed Muwwakkil, Mohammed Al-Tofan, Ali Eliadorani, Ashiya Myers, Angela Weathersby, Michael Niermeier, Michael Maloney, Kyle Holsclaw, Jeffrey McNesby and Elizabeth McLean

1. **Call to Order** – Mr. Jackson called the meeting to order at approximately 1:00 PM.

2. **Approval of Minutes: June 30, 2020** – Mr. Livingston moved, seconded by Mr. Malinowski, to approve the minutes as distributed.

   In Favor: Malinowski, Livingston, and Jackson

   Not Present: McBride and Myers

   The vote in favor was unanimous.

3. **Adoption of the Agenda** – Mr. Malinowski moved, seconded by Mr. Livingston, to adopt the agenda as distributed.

   In Favor: Malinowski, Livingston, Jackson and Myers

   Not Present: McBride

   The vote in favor was unanimous.

4. **Items for Information:**

   a. **Dirt Road Program Update** – Ms. D. Myers inquired if there was any backup documentation that goes with this item.

      Ms. Steele responded that they are still sifting through the PDT files; therefore, no backup documentation was provided because they did not want to provide incomplete information.

Mr. McNesby, the Project Manager overseeing the Dirt Road Pavement Program, stated they are going to breakdown the program into two (2) areas: Years 1 and 2 packages and Years 3 and 4 packages. In the Years 1 and 2 packages, they have completed construction on 20 of the dirt roads since the creation of the Transportation Program. While a number of the roads were dropped from consideration, they were asked by Council to reconsider/reevaluate 21 dirt roads that were looked at as possibly being redesigned, with a goal of getting those roadways moving forward. They mailed letters to 331 property owners on those 21 dirt roads. Interestingly, of the 331 letters, only 6 of them were returned with the property owners stating they did not want their dirt road paved. Therefore, all 21 of the dirt roads meet the minimal threshold of 75% consent to move back into design. Based on the positive feedback, they are recommending that the Ad Hoc Committee forward a recommendation to Council to relaunch the design work on these 21 dirt roads. Of the 21 dirt roads, 15 were stopped due to our inability to obtain fee simple right-of-way, 4 were stopped due to design issues, and 2 made it into construction where field issues were identified. At that time, the projects were removed from consideration. The goal is to get back to the property owners who previously denied the County right-of-way and talk to them about their concerns and see if there any potential changes that could move the roadway back into construction. Some of the property owners felt the County was taking too much of their land. These roads would likely have 11 ft. lanes, a shoulder and 2 roadside ditches. If that was considered to be too much, or would have too close of an impact to a home, staff could always look at narrowing the profile of that road.

Staff has held initial meetings with the On-Call Engineering Teams to review the status of the roads assigned to their team for the Years 3 and 4 Program. The goal is to try to get the projects moving from design and into construction. There are five (5) OETs and each have been assigned approximately 10 roadways. A number of the designs, assigned to these teams, were dropped at some stage during construction. There are 62 roads in the Years 3 and 4 packages, 11 of these were dropped at the consent/denial stage, 27 were dropped during the design of right-of-way acquisition stage, and 24 were dropped during design. Homes being too close to the roadway was one of the issues identified. One of the OETs was assigned 12 roadways, and, of those, 11 were dropped. When staff sat down with the OET, they talked about why the roadways dropped. Some of them were very simple issues where one homeowner might not want the road paved, so there is the potential to adjust the roadway. Of the 62 roads, they anticipate approximately 30 of them will a move forward, with a goal to get the number higher.

Ms. Steele stated after looking through the PDT's notes and reviewing why the roads were dropped from the program, they believe they can go back and address some of the simple issues and get some of the roads back on the list.

Mr. Malinowski requested the minutes from when Council requested the 21 roads from Years 1 and 2 be reevaluated. Also, he believes the right-of-ways on these roads should be consistent. If one landowner is giving 30 ft., then the person next door should not be allowed to only give 10 ft.

Mr. McNesby responded that is a fair request. Staff is at the initial stage in discussions. They do have the PDTs notes regarding their previous discussions with the property owners, but the files do not contain a lot of the information they would deem necessary to make a decision. As a group, they want to go back to the property owners and talk to them, and figure out their concerns. In many cases, the property owners just want to be heard.

Ms. Steele stated, when they discuss changing the road width, it would affect the whole roadway and not just in front of one property owner.

Ms. D. Myers requested a list of the roads they have gone back over. She stated sometime back we discussed alternate methods of paving. She inquired if we have gotten any movement on exploring alternate means of paving that may be less expensive. The budgetary impact of this has not been discussed, but the County obviously does not have unlimited funds.

Ms. Steele responded we have not. What they are typically going with is the low-volume manual that the County created when the program was started. She does not know if that manual was referenced in the referendum, and therefore what they are confined to. She indicated she can do some research, and, if they are not confined to going by the low-volume manual, then they may be able to look at alternatives.

Ms. D. Myers stated the referendum does not require the use of the low-volume manual, so if it could be researched before we expend all this money. She stated we will run out of money long before we run out of roads, if we use the traditional paving methods.

Ms. Steele stated, if they do utilize an alternative method, the maintenance crew would have to go out once or twice a year to renew the material they put down.

Ms. D. Myers stated there are more technologically advanced methods available than the methods we are currently aware of. When we had the initial discussion, about revisiting the dropped roads, we were going to look at designs that were less strenuous. She inquired if we have scaled back the design on these roads, or are we still at the "interstate style" design.

Ms. Steele responded that is what they will be addressing with the OETs. As Mr. McNesby said, they are just now relaunching the programs. They are definitely going to ask that the OETs look at value engineering, which would be the most cost efficient, with the minimum standards for a safe road.

Ms. D. Myers stated, for clarification, the OETs are not using the designs that we had for the roads.

Ms. Steele responded they are using the minimum allowed design for safety. If they do have designs that are more than the minimum allowable, staff will have them redesign a more cost efficient design.

Mr. Malinowski stated, if a person initially declined to have the road paved, he believes it is unfair to have them get a 2nd chance to have their road paved before everyone has had the opportunity to have their roads paved. He believes we should go through all the dirt roads and find out who wants them, and then we can go back to those that initially turned it down.

Mr. Jackson stated he agrees with Mr. Malinowski, in principle, but his concern is this is the 3rd iteration of someone being assigned the dirt road projects. Now that the in-house staff has the responsibility, he is not sure if what someone said to one of the earlier groups may still be valid. If the approach made by these earlier groups was so aggressive that it forced someone to turn it down, and the approach now is going to be radically different, those individuals may be inclined to reconsider their denial.

Ms. McBride cautioned us on using cheaper products and having to constantly rebuilding; therefore, she stated we should not settle for cheapness, which does not last, while also using the most cost efficient methods.

Mr. Jackson requested that once the requested research has been done that it be brought back to the committee, and to provide backup documentation for the committee members.

5. **Items for Action:**

a. **Clemson Rd. Widening Project – Waterline Deeds** – Mr. Niermeier stated the item before the committee is a request to deed over utility lines to the City of Columbia. As a part of the Clemson Road Widening Project, the County constructed these waterlines. As we move forward, the lines have to be deeded over to the City. Legal has reviewed, but not stamped, the deed provided by the City of Columbia. Once the deed is recommended for approval by the committee, it will be stamped, in form, and can move forward to Council for First Reading.

Mr. Malinowski stated, in the briefing document, it says, "The City requires that these waterlines be deeded over to them so that they can abandon the old waterlines and begin use of the new lines." He inquired if these old lines will be removed or left in place, and who is responsible for those lines if something were to happen with them.

Ms. Steele responded she would have to look at the construction plans to be determine if the old waterlines will be capped and remain in place. Until we have the Three Readings, and the ordinance is signed, the waterlines are the responsibility of the County.

Mr. Malinowski stated the deed begins with, "FOR VALUE RECEIVED". He inquired what the value is, and if the value should be included in the deed.

Ms. McLean responded "value received" would be the City taking these lines and maintenance; therefore, we would not need to put a number in the document.

Mr. Malinowski noted, on the last page of the deed, it states, "This paragraph is null and void upon completion of the Clemson Road Widening Project." It seems to him that if we are putting in 3 miles of widenings, and the waterlines are in the first mile, we should not be responsible for these lines when we are nowhere near them.

Ms. McLean stated they worked on the language, and tried to tighten it up. She noted they attempted to have the paragraph taken out altogether. If the committee is not comfortable with the paragraph, they can try to keep working on the language prior to Third Reading.

Mr. Malinowski stated in the same paragraph there is language that says, "…Grantor in connection with the initial installation of streets, paving, curbs and gutters, storm drainage lines, sanitary sewer lines, utility lines, final grading…". If you have final grading, and you have moved down the road, they have nothing to do with waterlines. When you look through the deed, every paragraph starts with a description and the word "waterlines". He does not know why this is in here is we are responsible for waterlines. He can see us being responsible one time for completion and grading, but not to be held responsible after that.

Ms. McLean responded she thinks the intent was that if we went out there to do anything, until the lines are turned over, and the lines were damaged we would take care of.

Mr. Jackson stated, for clarification, are we saying, when we get through the Three Readings and a Public Hearing, and the waterlines are turned over to the City, there would be some future obligation and responsibility for the County, if the lines were damaged.

Ms. McLean responded we were trying to make it clear that once this deed is executed, and filed, we have no liability. The City is trying to make it clear that until we turn it over, it is our responsibility.

Mr. Jackson inquired about how long we are anticipating this project to be ongoing.

Mr. Malinowski stated he does not think we need to be responsible for the City's existing waterlines, when time and age has caused something to happen.

Ms. McLean stated the language speaks to damage we cause, if we were to go out there to do any more road construction. It says, "County, its contractor, agent, or any party acting on our behalf."

Mr. Niermeier responded the project is scheduled to be completed in January 2021.

Mr. Jackson stated, for clarification, the window of risk is approximately 4 – 5 months.

Mr. Livingston moved, seconded by Mr. Malinowski, to forward to Council with a recommendation for approval.

Mr. Jackson stated this deed is not to be presented to full Council without the deed being stamped by Legal.

In Favor: Malinowski, McBride, Livingston, Jackson and Myers

The vote in favor was unanimous.

Mr. Malinowski stated he had someone request an update on actions Council took on the descoping projects in May 2019. He inquired if this approval means the Transportation Department can move forward with everything that was related to those projects.

Mr. Jackson responded the short answer is yes; however, he learned there are 1 – 2 projects that may be above the referendum amount and will need to be brought back to Council. We may still want to move forward with them, but he does not want it to be determined that the presentation was made with the understanding there were 1 – 2 projects that still did not fall under the referendum limit.

6. **ADJOURN** – The meeting adjourned at approximately 1:44 PM.

Projects In The Process Of Advertisement For Construction

Resurfacing Package R
Construction Cost Estimate: $4,906,367.00

See next page for list of 52 roads included in this package.

Dirt Road Package K
Construction Cost Estimate: $1,440,517.24

- Robert James Rd. (District 10) – 0.21 miles
- Rocky Rd. (District 11) – 0.18 miles
- Barkley Rd. (District 11) – 0.24 miles
- South Dr. (District 10) – 0.32 miles

Faraway Drive Sidewalk (District 8)
Construction Cost Estimate: $512,030.12

This sidewalk project is part of the Decker\Woodfield Neighborhood Improvement Project (NIP). This new sidewalk will run from Decker Blvd. to Willowby St. The length of this project is approximately 1.5 miles and will include the installation of crosswalks and ADA-compliant ramps at all intersections.

Newly Approved Service Orders

Blythewood Rd. Area Improvements (District 2)
Design Cost Estimate: $891,049.60 **10% Contingency:** $69,106.23

This project includes the Creech Rd. Extension and improvements to McNulty Rd between Blythewood Rd and Main St. Creech Rd will be widened, extended and improved from Blythewood Rd. to Main St. (approximately 0.46 miles). McNulty St. will be widened and improved from Main St. to Blythewood Rd. (approximately 0.44 miles.)

Crane Creek Neighborhood Improvement Project Ph. 3 (District 7)
Design Cost Estimate: $552,824.88 **10% Contingency:** $55,171.00

This project includes new sidewalk, crosswalks, and ADA-compliant ramps along Dakota Dr., Seagull Ln., Roberson St., and Lincolnshire North Dr. (approximately 2.31 miles.)

Finalized Roads for Resurfacing Package “R”

Scope:

Milling, full depth patching, and/or resurfacing of approximately 18.22 miles of roadway located within Richland County.

Project Length:

18.22 miles

District:

01, 02, 07, 08, 09, 10, 11

Number	Name	Districts
1	Ashleys Place	11
2	Averill Lane	1
3	Bedford Way	11
4	Belk Court	2
5	Bent Oak Court	7
6	Berkeley Forest Court	11
7	Berkeley Forest Drive	11
8	Bombing Range Road	9
9	Briercliff Drive	9
10	Bucktail Way	1
11	Candlewood Drive	11
12	Cardington Drive	11
13	Carolina Pines Drive	2
14	Columbia Club Dive E	9
15	Exton Shore Drive	11
16	Flowerwood Drive	11
17	Garner Lane	1
18	Greys Court	11
19	Harper Park Road	2
20	Jadetree Court	8
21	Jadetree Drive	8
22	Kildare Drive	11
23	Kip Court	2
24	Little Hamilton Road	11
25	Longtown Road W	07, 09
26	Mountainbrook Drive	11

Number	Name	Districts
27	Muirfield Court W	9
28	Northpoint Blvd	2
29	Oak Knoll Drive	2
30	Olde Springs Road	7
31	Osborne Lane	1
32	Padgett Woods Blvd	11
33	Pear Tree Circle	11
34	Prince Charles Lane	11
35	Radcot Court	8
36	Ragsdale Drive	11
37	Raintree Court	11
38	Raintree Lane	11
39	Ramblewood Drive	11
40	Redington Way	1
41	Regents Court	11
42	Salusbury Lane	8
43	Staffwood Court	1
44	Staffwood Drive	1
45	S. Royal Towel Drive	1
46	Stonemeade Drive	1
47	Ventura Court	8
48	W. Royal Tower Dr	1
49	Winging Creek Lane	8
50	Woodlands West	9
51	Wyncliff Court	1
52	Rosewood Drive	10

Service Order
For
On Call Engineering Services Agreement

SERVICE ORDER NO. P&P#9

Date: August 07, 2020

This Service Order No. P&P#9 is issued by Richland County, South Carolina (the "County"), to Parrish & Partners, LLC. (the "Consultant") pursuant to that Agreement dated February 11, 2015 between the County and the Consultant called "On Call Engineering Services Agreement Related to the Richland County, South Carolina Sales Tax Public Transportation Improvement Plan" (the "Agreement"), and to the Agreement for Construction, Engineering & Inspection Services dated January 10, 2020 and its first Amendment effective March 31, 2020.

This Service Order, together with the Agreements and Amendments, form a Service Agreement. A Service Agreement represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations, or agreements, either written or oral. A Service Agreement may be amended or modified only by a Change Order or Change Directive as provided for in the Agreement.

I. Scope of Services.

A. Unless otherwise provided in an exhibit to this Service Order, this Service Order and the Service Agreement are based on the information set forth below:

See Exhibit A – Scope of Services

B. Unless otherwise provided in an exhibit to this Service Order, the Consultant's Services to be provided pursuant to this Service Order are:

See Exhibit A – Scope of Services

C. Unless otherwise provided in an exhibit to this Service Order, the County's anticipated dates for commencement of the Services and Completion of the Services are set forth below:

1. Commencement Date: *as per executed Notice to Proceed*
2. Completion Date: *See Exhibit A – Scope of Services - Schedule*

D. Key personnel assigned by Consultant to this Service Scope of Work:

1. Ed Parrish, P.E. (Principal in Charge)
2. Cameron Nations, P.E. (Project Manager)

II. Insurance

The Consultant shall maintain insurance as set forth in the Agreement. If the Consultant is required to maintain insurance exceeding the requirements set forth in the Agreement, those additional requirements are as follows:

N/A

III. Owner's Responsibilities.

In addition to those responsibilities the County may have as stated in the Agreement, the County in connection with this Service Order only shall:

N/A

IV. Consultant's Compensation.

A. The Consultant shall be compensated for Services provided under this Service Order as follows:

Lump Sum		$	*691,062.32*
Approved Direct Expenses		$	*186,907.64*
Cost Plus Fixed Fee		$	*13,079.64*
	Total	$	*891,049.60*
*Contingency – Not to Exceed**		$	*69,106.23*

**Requires approval from Richland County to authorize contingency*

B. Additional Services. Unless otherwise provided in an exhibit to this Service Order, any Additional Services by the Consultant shall be paid as Additional Services as provided in the Agreement.

V. Additional Exhibits.

The following exhibits and/or attachments are incorporated herein by reference thereto:

Exhibit A – Scope of Services

VI. Execution of Service Agreement

The Execution of this Service Order by the County below constitutes a Service Order to the Consultant. The execution of this Service Order by the Consultant creates the Service Agreement.

NOW, THEREFORE, in consideration of the foregoing, the sufficiency of which is hereby acknowledged by the parties, this Service Agreement is entered into Under Seal as of the Effective Date of _____, 2020.

WITNESS:

RICHLAND COUNTY, SOUTH CAROLINA

By: Leonardo Brown, MBA, CRMS.)
Richland County Administrator

Its: _____

Date: 9/8/2020

CONSULTANT:

PARRISH & PARTNERS, LLC

WITNESS:

By: _____ (L.S.)

Its: SENIOR VICE PRESIDENT

Date: 9/14/2020

EXHIBIT A: SCOPE OF SERVICES

ATTACHMENT "A"
SCOPE OF SERVICES AND SCHEDULE
CREECH ROAD EXTENSION
BLYTHEWOOD ALTERNATIVE PROJECTS

Introduction

Parrish & Partners, LLC (CONSULTANT) has been authorized by Richland County (COUNTY) to provide engineering services for the Creech Road Extension Project in Richland County, South Carolina. All of the project area is located within the municipal limits of the Town of Blythewood (TOWN).

Creech Road is considered an Urban Local from Blythewood Road (S-59) to a dead end approximately 650 feet south of Blythewood Road. The COUNTY holds all public rights-of-way adjacent to the roadway and assumes all maintenance responsibilities for those said rights-of-way. The existing roadway currently provides access for five business/commercial developments and other undeveloped properties. The extension is planned in coordination with future planning and development initiatives by the Town of Blythewood.

Proposed Project Scope – Preliminary and Final Construction plans will be developed to reflect the implementation of the Creech Rd Extension project to include the following;

- 25 mph design speed.
- 2, 12-foot wide travel lanes.
- The addition of a two-way left turn lane along the length of the roadway.
- The addition of bicycle and pedestrian accommodations along the length of the roadway.

The design and plans will be reviewed by DEPARTMENT District Encroachment personnel specific to the areas of encroachment at Blythewood Road and US Route 21.

Summary of Anticipated Services - An outline of the services anticipated for this project is shown below.

Task 1 - Project Management
Task 2 - Environmental / Public Meeting
Task 3 - Traffic Analysis
Task 4 - Field Surveys
Task 5 - Roadway Design
Task 6 - Pavement Marking and Signing Design
Task 7 - Transportation Management Plan
Task 8 - Stormwater Management / Hydraulic Design
Task 9 - Sediment & Erosion Control / NPDES Permitting
Task 10 - Geotechnical Investigations and Engineering Services
Task 11 - Subsurface Utilities Engineering (SUE)

Task 12 - Utility Coordination Assistance
Task 13 - Construction Phase Services

Quality Control

The CONSULTANT shall implement all necessary quality control measures to produce plans and reports that conform to COUNTY guidelines and standards. Prior to submittal to the COUNTY, all plans and reports shall be thoroughly reviewed for completeness, accuracy, correctness, and consistency. Subconsultants for this project will be required to implement and maintain a stringent quality control program as well. The COUNTY reserves the right to request QA/QC documents (red-lines, checklists, etc) from the CONSULTANT with project deliverables.

Task 1

PROJECT MANAGEMENT

The CONSULTANT shall institute a program for conformance with COUNTY requirements for monitoring and controlling project engineering budget, schedule and invoicing procedures. The CONSULTANT's subconsultants shall be included in this program. Proposed dates of submittals, completion of tasks, and final completion of pre-construction services as noted in this agreement will be negotiated with the COUNTY. Included in management of the project will be:

- Project meetings between the COUNTY, DEPARTMENT, TOWN and CONSULTANT for clarification of scope, discussion of concepts, review of submittals, etc. at the discretion of the COUNTY.

- The CONSULTANT will prepare meeting agenda and meeting materials as well as record the minutes of each meeting in which it participates and distribute to the appropriate COUNTY personnel.

- Prepare monthly invoices, status reports, and schedule updates. Assume a 10 month design schedule which will impact the duration of preparing invoices, status reports, and schedule updates.

- The CONSULTANT will provide coordination with its SUB-CONSULTANTS during the execution of their work. Assume a 10 month design schedule.

- The CONSULTANT will include the COUNTY in any discussions concerning the project prior to submittal of deliverables if that process has the advantage of expediting the completion of any task of the project.

The CONSULTANT will attend meetings with the COUNTY and stakeholders from various organizations affected by this project in order to incorporate the needs and desires of these

organizations into the decision-making process. It is assumed that the CONSULTANT will attend 12 project meetings (1 each month during the design services) and two (2) additional review coordination meetings with the DEPARTMENT, COUNTY and others, as applicable. The CONSULTANT will be in attendance at these meetings and will prepare all necessary display materials, meeting agendas and minutes.

Deliverables:

1. Ten (10) status reports (approximately monthly) and updated schedule. Two (2) additional meetings may be held specific to miscellaneous coordination efforts.
2. Meeting agendas and meeting minutes covering all project meetings. Meeting agendas are to be provided to the COUNTY within two (2) business days prior to all meetings. Meeting minutes are to be provided to the COUNTY within three (3) business days after all meetings.

Task 2

ENVIRONMENTAL SERVICES/PERMITTING

The CONSULTANT will assist the COUNTY with the required coordination with Local, State and Federal agencies regarding environmental services to ensure the program is in compliance with appropriate environmental regulations to obtain a Wetlands Permit and Land Disturbance Permit. The CONSULTANT will provide specific documentation, including but not limited to project information, applications and drawings as necessary for acquisition of the required permits.

Within two weeks of the date that the COUNTY provides a Notice to Proceed (NTP) for the subject project, and prior to commencement of design, the CONSULTANT shall conduct a brief desktop environmental overview and make a determination of the environmental and/or navigational permits expected to be required for the subject project on a permit determination form. This information will inform the COUNTY of the anticipated permits and will be incorporated in the project schedule to ensure compliance.

Permits – The CONSULTANT will coordinate with the COUNTY and attend coordination meetings with state and federal resource agencies and document all discussions and understandings that are reached.

The CONSULTANT shall perform Jurisdictional Delineations utilizing the three-parameter approach (hydric soils, hydrophytic vegetation and wetland hydrology) set forth in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, and subsequent Regional Supplements. The upland/wetland boundaries will be appropriately flagged in the field and surveyed using sub-meter GPS or survey data. The study corridor will be 100' each side of the existing roadway centerline. The CONSULTANT will plot the wetland boundaries on a surveyed map for inclusion with the JD request. The CONSULTANT shall prepare a request for a preliminary jurisdictional determination (JD) or, at the request of the COUNTY, an approximate JD letter for the project corridor. This submittal will be prepared according to the USACE's

"Information Required for Delineation and Jurisdictional Determination Submittal (February 2015)", or subsequent guidance. The completed request package, including drawings, will be submitted to the COUNTY for final processing and coordination with the agencies.

If applicable, the CONSULTANT shall prepare the Joint Federal and State Permit Application Package in the format specified by the Charleston District Corps of Engineers. The CONSULTANT shall complete all forms, documentation, and drawings as directed by the COUNTY that are part of the permit application package. The COUNTY or DEPARTMENT will execute the application form as the applicant, and may designate the CONSULTANT as the agent in the processing of the permit application, if so desired. It is assumed that any permits would be authorized under the SCDOT General Permit and will be prepared according to current DEPARTMENT standards which include the following:

- Joint Federal and State Application Form
- Permit Drawings: Drawings depicting the proposed impacts to waters of the U.S. on the subject property. The CONSULTANT shall include the surveyed or measured boundaries of jurisdictional waters superimposed on the actual development/grading plans to establish the proposed jurisdictional impacts.
- Impact Assessment Form and Supplemental Information: The CONSULTANT shall include a completed Impact Assessment Form, which includes, but is not limited to the following:
    - Project Information
    - Proposed impacts to WOUS
    - Alternative Analysis
    - Avoidance & Minimization
    - Hydrology & Hydraulics
    - Section 106 of the National Historic Preservation Act
    - Threatened and Endangered Species.

Mitigation Plan: In accordance with regulatory requirements, the CONSULTANT will develop a conceptual mitigation plan and submit it as part of the application package. It is assumed that any mitigation needed for this project will be acquired from the proposed COUNTY Mitigation Site.

The CONSULTANT shall submit the completed permit application package to the COUNTY for final processing and negotiation with the agencies. The COUNTY will coordinate directly with the DEPARTMENT, USACE, SCDHEC and other federal, state and local regulatory personnel throughout the course of the permit application process, and coordinate the submission of any additional information as requested by the respective agencies in order to facilitate permit review and approval. The CONSULTANT may be asked to assist in the coordination effort, and will not coordinate with the agencies unless directed by the COUNTY.

No NEPA documentation services are assumed for this scope of work.

Technical Reports

Hazardous Waste and Underground Storage Tanks – In assessing the environmental liabilities associated with the proposed new rights of way, the COUNTY may conduct appropriate /

applicable elements of a Phase I Environmental Site Assessment in accordance with procedures established by ASTM Designation E 1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". This approach complies with the Standards and Practices for All Appropriate Inquiries (AAI), Final Rule published in 40 CFR Part 312. A Phase 2 Site investigation may be conducted by the COUNTY for those sites recommended for additional study as stated in the Phase 1 ESA. The results / deliverable provided from a Phase 1 ESA and any potential Phase 2 Site Investigations will be provided to the CONSULTANT.

Public Coordination/Public Meeting – The CONSULTANT, with input from the COUNTY, shall prepare related public meeting materials, (deliverables would include plan view displays, project overview maps, typical sections, right of way data tables, etc). The CONSULTANT shall provide draft copies (hard copy and pdf) of all display materials to be used in public meetings to the COUNTY for review, a minimum of 15 business days prior to the meeting. The CONSULTANT will also provide the COUNTY with PDF versions of the displays for the public information meeting one week prior to the meeting for posting on the COUNTY website. The CONSULTANT should assume one (1) meeting with COUNTY staff as a planning session to review the public meeting plan. The meeting would be assumed to be held in conjunction with Preliminary Construction Plans.

The COUNTY may provide security guards from local law enforcement agencies or private security firms for all public meetings. The COUNTY will also be responsible for fabricating and erecting signs to be placed on the projects as well as hard copies of all handouts, comment forms, sign-in sheets, etc. The COUNTY will also procure and bring all other items not specifically mentioned below to be provided by CONSULTANT.

The public meeting is planned as an open-house style meeting. The COUNTY may conduct a brief, formal presentation at some time during the public information meeting. The CONSULTANT shall attend the scheduled public meeting and have a minimum of four (4) personnel knowledgeable of the project and its impacts in attendance. The CONSULTANT's role at this meeting is to discuss the project design and impacts with the public in attendance. The CONSULTANT will be responsible for bringing hard copies of the project displays (plan view, typical sections, overview boards, etc) as well as display boards (typical black, foam boards; "GATOR" board, or equivalent) to the meeting; assume three (3) copies of each display to be provided at the meeting. The CONSULTANT will also procure and bring all easels necessary for project display boards.

The public meeting will tentatively be scheduled for 5:00 pm to 7:00 pm on a Tuesday or Thursday at a venue near the project corridor or along the corridor. The COUNTY will be responsible for procuring the venue and determination of date and time.

Upon conclusion of the public comment period, the CONSULTANT will prepare a public meeting summary to include a summary of the public comments received. The CONSULTANT will also prepare and provide a document (Word or Excel), in matrix format, which includes the public comment, citizen name and contact info, and space for COUNTY response to each comment. The COUNTY will be responsible for development of all responses and individual response letters.

Assumptions

1. One (1) public information meeting will be scheduled prior to finalizing Construction plans.

Deliverables

1. Attendance at one (1) Public Meeting and preparation of all meeting materials.
2. Public meeting summary

Task 3

This task has been removed at the request of Richlaud County.

Task 4

FIELD SURVEY/MAPPING

Aerial Photography and LiDAR Mapping – The CONSULTANT secured all necessary Aerial Photography and LiDAR Mapping surveys for use during previous contract. Mapping surveys were prepared to the contour accuracy of 0.5 feet (1-foot contour interval). The aerial LiDAR mapping will be prepared for use in plans developed to a horizontal scale of 1" = 50'.

Field annotation of aerial topography will be performed by the CONSULTANT.

Control Surveys – The CONSULTANT will establish the Primary, Main and Secondary Survey Control Points to be used during the supplemental topographic surveys and the construction of this project. All surveys will be in accordance with SCDOT's *Pre-Construction Survey Manual* dated October 2012. The CONSULTANT will notify the COUNTY of any required temporary traffic control measures (e.g. shoulder/lane closures, etc.) within seven (7) days before such closure due to survey activities.

Control survey and information provided on plans shall be consistent with SCDOT Preconstruction Design Memorandum 08 (PCDM-08).

Design Surveys – Additional field surveys will be performed by the CONSULTANT as necessary during the design phases of the project. All surveys conducted should be adequate for the design, permitting and construction of the project.

Field survey services for the preparation of aerial LiDAR mapping shall include the collection of 2 additional photo ID points – one at the intersection of Blythewood Road and US Route-21 and the second near the new tie-in location of Creech Road and US Route 21. Field survey of the photo ID points will be performed utilizing the South Carolina VRS Network to establish horizontal coordinates referenced to the South Carolina State Plane Coordinate System (NAD 83/2011) for each point. Elevations referenced to the NAVD 88 Vertical Datum will be established for each ID

point by performing differential level loops to the accuracy necessary for LiDAR mapping accuracy. An ASCII or .txt file shall be provided containing the horizontal coordinates and vertical elevations of each ID point. The intent is to utilize the aerial LiDAR surveys conducted in this stage of work (and those deliverables as conducted under previous contract) for all future design services.

Supplemental field surveys will be conducted by the CONSULTANT to obtain all topographic and planimetric data within the project corridor. CONSULTANT to assume 12 hours for supplemental surveys.

Field surveys will be performed by the CONSULTANT to establish existing rights-of-way and to locate frontal property boundary monumentation for developing property maps per the DEPARTMENT format.

Property owner data will be obtained from county records (plat and deed research) for use in the property surveys and to incorporate property ownership data into the roadway plans. The property monumentation and property owner data will be used to develop a closed out property drawing.

Level runs between existing primary vertical control points will be performed to establish additional benchmarks to be referenced on the contract drawings.

Survey data will be shown on Reference Data Sheets in the '5 series sheets' of the plans due to lack of room on the 1"=20' scale plan sheets.

The CONSULTANT will locate all drainage, stormwater, sanitary sewer structures and above ground utility structures within 100 ft. of the proposed roadway alignments. For drainage, stormwater, sanitary sewer structures, the pipe size, pipe type, structure type and invert / rim elevations shall be obtained. The CONSULTANT will locate and survey the next connecting structure (if outside the 100 ft. area) in order to determine grades / depths of existing facilities.

The CONSULTANT will horizontally and vertically locate all potential outfall drainage ditches and streams. At these outfalls, cross sections will be obtained 400 feet upstream and downstream at 50-foot intervals, or as necessary to define the channel alignment, from the proposed roadway alignment. All cross sections will be extended from bank to bank of the existing channel plus 10 feet on either side. Assume 4 outfalls for survey.

The CONSULTANT shall update the existing project DTM / topo files (as prepared under previous contract by CONSULTANT) with all supplemental field survey data as shown above.

The CONSULTANT will stake and obtain boring elevations for all geotechnical borings performed on the project by the CONSULTANT.

The CONSULTANT will stake the proposed and present rights-of-way for approximately 50% of the total parcels to be affected, upon direction – assume 6 tracts for this scope of work. Right-of-way staking will consist of placing 36-inch stakes (or paint in paved areas) at all proposed right-of-way breaks, sight triangles and spaced at 100-foot intervals in tangents and 50-foot intervals in curves. These stakes shall be placed after Final Right-of-Way Plans have been developed and only

after the Project Manager contacts the CONSULTANT when a property owner requests the right-of-way to be staked.

All right-of-way staking services will be separate from the lump sum amount for Task 3 and will be invoiced on a cost plus, fixed not to exceed amount, only when authorized by the COUNTY.

The CONSULTANT should assume multiple trips as the staking may involve several parcels.

The CONSULTANT will notify the COUNTY's designated Project Manager prior to performing any work on site. The CONSULTANT will not be responsible for obtaining permissions from property owners for surveys outside of the existing Right-of-Way.

Task 5

ROADWAY DESIGN

For this task and all other tasks contained in this scope, the CONSULTANT will utilize the DEPARTMENT standard drawings, specifications, and design manuals that are current as of the first issuance of the task order scope by the COUNTY to the CONSULTANT.

Develop Design Criteria – The CONSULTANT will prepare the project Design Criteria for the Creech Road Extension project in accordance with the following;

- ***SCDOT Roadway Design Manual (2017 Edition);***
- *Applicable* ***Instructional Bulletins, Preconstruction Advisory Memos*** *and* ***Preconstruction Design Memos;***
- ***Standard Drawings for Road Construction*** *(latest revisions per Notice to Proceed of this work);*
- *All applicable* ***American Association of State Highway Transportation Officials (AASHTO)*** *publications.*

Any exceptions and/or deviations from established design guides and standards will be identified. The CONSULTANT will notify the COUNTY of any exceptions and/or deviations from the Design Criteria as soon as identified. The COUNTY will coordinate the Design Criteria with the DEPARTMENT for final approval.

Concept Design

The CONSULTANT will prepare a concept design and cost estimate for COUNTY approval for the project to reflect the alignment as proposed by the TOWN and per the following base criteria.

- 25 mph design speed.
- 2, 12-foot wide travel lanes.
- The addition of a two-way left turn lane along the length of the roadway.

- The addition of bicycle and pedestrian accommodations along the length of the roadway.

The concept design should be developed in plan view only, in roll-plot formatting and provided to the COUNTY in hard copy and pdf formats. The designs should be sufficiently detailed to reflect lane lines, edges of pavement, curb, sidewalk / shared-use paths, property and existing r/w lines and proposed new rights-of-way.

The CONSULTANT will prepare / update the cost estimate (from previous concept prepared under original contract) specific to this project to be provided with the concept design. Areas of new rights of way, per parcel, will also be provided to the COUNTY.

For the purpose of this estimate, it is assumed that one conceptual design and accompanying cost estimate will be provided. The conceptual design is assumed to be based upon a diagrammatic concept as provided by the TOWN. The CONSULTANT shall verify use of proper diagrammatic concept with the COUNTY prior to proceeding. If multiple designs are requested, it is assumed that such changes would be negotiated through a contract modification or contingency authorization.

Typical Section, Alignment and Intersection Studies - Upon completion of the concept design and estimate and in coordination with the COUNTY and TOWN, the typical section, alignment and intersections will be further evaluated and refined for development of the proposed design. Existing features of the project will be considered during development of the proposed alignment and intersection studies. Environmental constraints, railroads, utilities, businesses, and residences will be considered in the development of the proposed geometry and any localized or segmental modifications to the typical section.

Preliminary Roadway Plans – Following concept design development and approval, traffic study recommendations, and discussions with COUNTY regarding the recommended design approach, the CONSULTANT will prepare Preliminary Roadway Plans. The plans will be developed to the level of detail of approximately 30% Complete Construction Plans. The Preliminary Roadway Plans for the project will be prepared at a scale of 1"=20' scale to illustrate pertinent information associated with roadway design. The plans will be sufficiently developed to illustrate the construction limits and right-of-way requirements of the entire project. The plans will incorporate information obtained during data collection / site visits and any utility information discovered during coordination with utility owners (COUNTY to conduct), and the design will be adjusted where possible to minimize impacts. Additionally, the design will be adjusted to minimize impacts to developed properties and wetlands. Preliminary Plans will include plan, profile and cross-sections of the recommended design, to include (at a minimum) the following;

- Typical Sections
- Horizontal / vertical alignments (mainline)
    - For vertical profile, assume an approximate 4" overlay for areas over existing roadway
- Plan Layout (lane widths, radii, directional arrows, storage, tapers, etc)
- Review of sight distance considerations

- Review of non-standard driveway grades and tie-ins
- Limits of existing rights-of-way, easements and adjacent properties
- Property lines and parcel numbers (from field survey, plat / deed research)
- Preliminary storm drainage plan detailing structure type, pipe size, ditches, etc.
- Anticipated location, type and size of necessary drainage culverts, major cross-lines, outfall improvements, retaining walls, and other miscellaneous roadway structures
- Cross-sections at 100 foot intervals on tangents and 50-foot intervals in curves
- Construction limits
- Proposed rights-of-way and easements
- Labeling (type, size and location) of existing, major utility features

Upon completion of the Preliminary Roadway Plans, the CONSULTANT will submit the plans to the COUNTY for review and comment. The CONSULTANT will be responsible for addressing comments and plans revisions with subsequent roadway plan submittals (per scope below).

A cost estimate will be prepared by the CONSULTANT and submitted along with the Preliminary Roadway Plans for use by the COUNTY. The COUNTY will use this cost estimate in order to determine whether or not the scope of the project needs to be reduced or expanded due to budgetary constraints.

Upon completion of the Preliminary Roadway Plans, the CONSULTANT will provide the COUNTY with two (2) half-sized, hard copy sets of plans along with a PDF (half-size and full size). The CONSULTANT at this time will also provide the COUNTY with preliminary new rights-of-way areas for use in developing an estimated right-of-way cost.

Design Revisions / Modifications – The CONSULTANT should assume that minor revisions and plan adjustments may be necessary, prior to preparation of final design, as a result of coordination with project stakeholders (TOWN, COUNTY). It is assumed that any changes to the typical section or horizontal geometry (alignment) to the Creech Road Extension mainline will be negotiated through a contract modification or contingency authorization.

Final Roadway Design and Plans

Roadway Construction Plans – The construction plans will be a continuation of Preliminary Plans (30% complete) and will address comments from the COUNTY review of the preliminary plans.

Construction Plans will be developed in general accordance with the DEPARTMENT's requirements, with the following exceptions:

- Moving Items will only be shown on the Moving Items Sheet.

- The owner's name and any permissions will not be shown on the Plan Sheets. The only property information shown on the plan sheets will be the Tract Number.

The plans will be reviewed by DEPARTMENT District Encroachment personnel. For estimating purposes, it is assumed that 2 review submittals will be made to the DEPARTMENT for comment.

The CONSULTANT will be responsible for providing an initial list of moving and demolition items to the COUNTY for use by the right-of-way agent.

The CONSULTANT will incorporate information obtained during the SUE phase of the project.

The CONSULTANT will provide curb grades around side roads and major driveway radii, where applicable.

The CONSULTANT will estahlish horizontal and vertical alignments along with cross sections, as needed, in order to study the re-connection of driveways to the roadways. This design data will be shown in the plans in order to convey the extent/impact of the re-configuration of driveways necessary to provide access to the property. Driveways that are level with the roadway will not have a horizontal or vertical alignment set, but will be handled by only showing their connection in the roadway cross section and plan view based on the roadway cross section.

Plan and profile sheets, as necessary, will show information necessary to permit construction stakeout and to indicate and delineate details necessary for construction.

The CONSULTANT will attend the Construction Plans Design Field Review with the COUNTY to review the project design in the field.

A set of Preliminary Construction Plans (95% complete) will be submitted to the COUNTY for review prior to final plan delivery. The preliminary cost estimate will be updated by the CONSULTANT and submitted with the Preliminary Construction Plans for use by the COUNTY.

On or before the contract completion date, the CONSULTANT will deliver to the COUNTY one complete set of Final Construction Plans, an Engineer's Estimate, and "Project Specific" Special Provisions. See Project Special Provisions and Engineer's Estimate for the description of the Engineer's Estimate and "Project Specific" Special Provisions.

The CONSULTANT will provide one half-size (to scale) hard copy (12"x18"), a full size PDF (22"x36") and CADD files (MicroStation format) at each review stage. Additionally, the CONSULTANT will provide one full size (22"x36") set with Final Construction Plan submittals.

Project Special Provisions and Engineer's Estimate – The CONSULTANT will prepare all "Project Specific" Special Provisions and include them in the format compatible with the DEPARTMENT Construction Administration Section. The CONSULTANT will work closely with COUNTY personnel in the COUNTY'S development of the construction document package.

Also, utilizing recent bid data from similar projects in the area, the CONSULTANT will prepare an Engineer's Estimate for construction of this project. The estimate will be based on the final summary of quantities. The CONSULTANT will attend a meeting with the COUNTY to reconcile differences between the CONSULTANT's estimate and the COUNTY's estimate.

Task 6

PAVEMENT MARKING AND SIGNING

Final pavement marking/signing plans will be prepared at a scale of 1"=20' unless otherwise agreed upon. The plans will consist of an itemized listing of estimated quantities; typicals for installation (DEPARTMENT typicals may be used where applicable), details showing lane lines, edge lines, stop bars, symbol and word messages and other appropriate markings and sign designation numbers and locations. The plans will include dimensions sufficient for field layout. The *Manual on Uniform Traffic Control Devices (MUTCD): 2009 Edition* and DEPARTMENT details will be incorporated into the plans.

Assumptions made as part of meeting with Richland County on July 7, 2020:

1. No overhead signs will be required.
2. No signage that will require the development of signage layout sheets will be required.
3. Pavement marking/signing design and plan sheets will only be required at the intersection of Creech Road and Main Street (US-21).

Task 7

TRANSPORTATION MANAGEMENT PLAN

Work Zone Traffic Control Plans – The design and preparation of one set of Work Zone Traffic Control plans will be accomplished for the roadway project. The plans will include a description of the sequential steps to be followed in implementing the plans, and will be developed at a scale of 1"= 50', unless otherwise agreed upon. The traffic control plans will include lane closures, traffic control devices, temporary lane markings, and construction signing and sequencing notes. The plans will identify lane widths, transition taper widths, and any geometry necessary to define temporary roadway alignments. Also, the plans will address the type of surface to be used for all temporary roadways. Standard traffic control details will be incorporated into the plans for most work activities, but detailed staging plans will be required where impacts upon the normal traffic flow are significant.

Preliminary traffic control plans (and associated pay items and quantities) will be submitted in conjunction with the 95% complete roadway plans, and the final signed and sealed traffic control plans, along with quantities, will be submitted with the final roadway construction plans.

The Creech Road Extension project should be assumed an ***"Intermediate"*** project per the DEPARTMENT's *Rule on Work Zone Safety and Mobility.*

Task 8

STORMWATER MANAGEMENT/HYDRAULIC DESIGN

The CONSULTANT will perform the Stormwater Management and Hydraulic Design for the project based on SCDOT Design Guidelines. Design procedures specified by the South Carolina Department of Health and Environmental Control as well as Richland County will be incorporated as needed. Any conflicts in design criteria for the review agencies will be evaluated with the COUNTY to determine the appropriate design procedure for the project. This task includes inspection of the existing drainage structures and roadway drainage.

Roadway Drainage - The roadway drainage design for the project will be completed utilizing design procedures that comply with stormwater management and sediment and erosion control regulations and the NPDES general permit. All drainage calculations will be performed with methods suggested in the DEPARTMENT's *Requirements for Hydraulic Design Studies* dated May 26, 2009 and be made available to the COUNTY for approval.

The CONSULTANT will perform a field review of the project and a visual inspection of the existing drainage systems within the project area. The inspections performed will not include any material testing or structural analysis. The CONSULTANT will document any irregularities in the existing drainage system and provide the data to the COUNTY. If needed, the CONSULTANT will meet with the COUNTY in the field to review and discuss the condition of the existing drainage system prior to reuse in the proposed design. If additional testing or inspection (video pipe inspection) is recommended, the CONSULTANT will prepare the recommendation and submit to the COUNTY for submittal to the DEPARTMENT.

Roadway drainage design for the project is dictated by the project horizontal and vertical geometry. The design will be terminated at available existing outfall locations or at new locations that will be constructed as a part of the project. Drainage areas will be defined from the existing topography as determined from available mapping and field survey. Design year storms will be established in conjunction with DEPARTMENT guidelines for on-site and off-site runoff. For the design year storm, rainfall intensities appropriate for the project area will be determined and the runoff will be calculated for each drainage area. For each contributing sub-area, a structure will be identified to accept the runoff (inlet, cross-pipe, ditch, etc.). Based on accumulation of runoff, appropriate pipe sizes will be chosen to convey the runoff to the outfall. As part of the project design, alternate pipe designs will be developed as per DEPARTMENT Engineering Directive Memorandum No. 24.

The hydrologic analysis of each watershed will be performed with the appropriate method for the Sandhills physiographic region. Pre- and post-construction peak discharges will be computed at each outfall. Outfalls will be evaluated in accordance with DEPARTMENT and NPDES regulations. If required to control stormwater quality or quantity, water quality or detention basins will he added using a hydraulic routing method. Energy dissipaters may also be utilized based on HEC-14 procedures. Outfall channel protective measures will be based on design methods in HEC-15 and/or HEC-11.

Roadway cross-lines will be designed and analyzed according to the principles given in FHWA's Hydraulic Design Series No. 5. Cross-line pipes will be sized based on DEPARTMENT criteria and possible hackwater effects. To reduce backwater, multiple pipes or multiple barrel culverts may be used in lieu of a single structure. Closed storm sewer systems will be analyzed with GEOPAK Drainage or XP-SWMM. Roadway inlets will be located based on FHWA's Urban Drainage Design Manual HEC-22. Any roadway ditches will be sized with Manning's equation, and designed using HEC-15 methodologies.

The storm sewer design for the project will be performed to minimize impacts to existing utilities if possible. Existing utility data will be obtained by the COUNTY from the utility owners within the project area. The CONSULTANT will utilize this data as part of the design for the storm sewer systems. The CONSULTANT will adjust pipe locations and inverts if possible. If conflicts cannot be avoided, the CONSULTANT will evaluate the use of utility conflict boxes or other devices to minimize the need for utility relocations. The CONSULTANT and the COUNTY acknowledge not all utility relocations can he avoided.

The CONSULTANT will evaluate the potential impacts from the project on water quality. If dictated by project permitting, the CONSULTANT will utilize water quality best management practices to provide treatment to pavement runoff prior to entering environmentally sensitive areas.

The location of the storm drainage systems will be shown on the roadway plan sheets or replicated drainage sheets. Additional plan information will include pipe and drainage structure size, location, type and elevation. A Stormwater Management Design Report will be prepared for the project based on SCDOT guidelines and will include a project description, drainage approach and methodology, design calculations, soils descriptions, and location maps. A Preliminary Stormwater Management Design Report will be prepared and submitted with Preliminary Plans. It is assumed that this document will be the basis for the Final Stormwater Management Design Report to be prepared and submitted with Final Construction Plans.

Task 9

SEDIMENT AND EROSION CONTROL/NPDES PERMITTING

Sediment and Erosion Control – The project will include the development of Sediment and Erosion Control Plans as well as the preparation of Supporting Documentation for the Land Disturhance Permit Application.

The erosion control plans will be prepared on replications of the roadway plan sheets at a scale of 1"=20', unless otherwise agreed upon. The erosion control plans will reflect a proposed design for minimizing erosion and off-site sedimentation during construction. The erosion and sediment control design will include the temporary placement of sediment ponds, sediment dams, silt basins, inlet structure filters, sediment tubes, silt ditches, and diversion dikes at specific locations along the project. The plans will reference the DEPARTMENT's Standard Drawings for Roadway Construction to assist the contractor with the construction of these items. The plans will also identify the need to maintain, clean, and relocate these erosion control measures as the project progresses and address the removal of temporary erosion control devices following construction. The placement of erosion control measures outside proposed right-of-way through the use of temporary easements will be investigated as a possibility if they will not fit within proposed right-of-way. Quantities for erosion and sediment control items will be calculated based on DEPARTMENT typical drawings. Any required erosion control computations will be completed with approved methods and submitted to the COUNTY.

NPDES Permitting – The project will require the acquisition of a National Pollutant Discharge Elimination System (NPDES) permit for construction activities. The NPDES permit is required by the South Carolina Department of Health and Environmental Control (SCDHEC) for all land disturbing activities in South Carolina. The CONSULTANT shall provide all coordination with SCDHEC for the approval of permits.

The CONSULTANT will assist the COUNTY with the development of the NPDES permit application as well as with the submission of any required supporting data. The Stormwater Management Report for the project will contain all supporting data developed by the CONSULTANT for the project. The CONSULTANT will provide additional calculations and make revisions to the construction plans as required by the permit reviewer. This scope of services does not include redesign of any elements of the roadway design as a result of comments from the NPDES permit reviewer. Any required revisions would be completed under a separate contract modification.

Task 10

GEOTECHNICAL EXPLORATIONS AND ENGINEERING SERVICES

General – The CONSULTANT will perform a final geotechnical exploration for the new location roadway, shared-use path, four (4) cross line culverts, and shoulder widening. The CONSULTANT will gather samples, conduct tests, and analyze necessary soil and foundation data for the roadway improvements. The results of the sampling, testing, analysis, and recommendations concerning the design will be compiled into a final report for submittal to the COUNTY. The following design standards will apply:

- 2007 SCDOT Standard Specifications for Highway Construction
- SCDOT Standard Supplemental Specifications and Special Provisions
- 2019 SCDOT Geotechnical Design Manual (GDM), Version 2.0
- 2008 SCDOT Pavement Design Guidelines

Field Exploration (Final Subsurface Exploration) – Prior to beginning the final subsurface field exploration, the CONSULTANT will notify the COUNTY seven (7) days in advance so the COUNTY can coordinate with the DEPARTMENT. The CONSULTANT will comply with published DEPARTMENT lane closure restrictions. CONSULTANT has assumed that COUNTY will obtain permission from property owners for CONSULTANT to perform borings outside of the DEPARTMENT and COUNTY right-of-way

CONSULTANT will request an SC811 ticket prior to starting field work for the final exploration.

Final boring locations will be determined by the CONSULTANT. The CONSULTANT will provide copies of the proposed final subsurface exploration plans to the COUNTY prior to initiation of field work for review and acceptance. See Chapter 4 of the SCDOT GDM for subsurface exploration guidelines. The final subsurface exploration plan is to include, as a minimum, the following:

- Description of the soil or rock stratification anticipated
- Description of the proposed testing types
- Depth of tests
- Location of tests

New Location Roadway, Pavement Thickness, Shoulder Widening, four (4) cross line culverts, and Shared-Use Path – Subsurface Exploration

- Roadway soil test borings will be performed as specified in the SCDOT Geotechnical Design Manual which references the SCDOT Pavement Design Guidelines for boring frequency. The CONSULTANT has assumed that generally cut and fill sections will be three (3) feet or less in height.
- Final soil test horings will be performed at a frequency of approximately 500 feet within the DEPARTMENT's right-of-way, COUNTY right-of-way, or on private property with access permission obtained by the COUNTY.
- Three (3) roadway soil test borings (SPT borings) will be performed up to a depth of 10 feet, or auger refusal (whichever occurs first) inside and/or outside the DEPARTMENT/COUNTY right-of-way.
- Eight (8) soil test borings (SPT borings) will be performed for four (4) cross line culverts up to a depth of 15 feet, or auger refusal (whichever occurs first) inside and/or outside the DEPARTMENT/COUNTY right-of-way
- Two (2) bulk samples will be obtained from near surface soils.
- Three (3) cores will be cut from the roadway to aid in pavement thickness recommendations

Other Field Testing Items

- Traffic control will be performed in accordance with the latest DEPARTMENT guidelines. It is anticipated that 1 day of lane closures will be necessary.
- At the completion of field work, test locations will be located for latitude and longitude,

elevation and station with GPS equipment.

Field Engineering – The CONSULTANT will provide oversight of hand auger borings, drill rig and cone rig operations by a field engineer and/or field geologist. Soil Classification in accordance with USCS (ASTM 2487) will be performed by a field engineer and/or field geologist who will have a minimum of 3-years of experience in supervision of field equipment and field personnel.

Laboratory Testing – The CONSULTANT will be AASHTO certified in the anticipated laboratory testing outlined below and/or any additional testing that may be required. See Chapter 5 of the SCDOT GDM for AASHTO and ASTM designations. The laboratory testing will be performed on selected samples in order to evaluate the types of soils encountered, confirm visual classifications, and estimate engineering properties for use in design. Laboratory testing may include, as estimate, the following:

- 20 Natural Moisture Content Tests
- 20 Grain Size Distributions with wash No. 200 Sieve
- 20 Moisture-Plasticity Relationship Determinations (Atterberg Limits)
- 2 Standard Proctor Tests
- 2 California Bearing Ratio Tests

Final Roadway Geotechnical Engineering Report and Pavement Report – The Final Roadway Geotechnical Engineering Report will be conducted in general accordance with the procedures outlined in the GDM. The report will include a subsurface profile for the final geotechnical subsurface exploration in accordance with the GDM Chapter 4. The final geotechnical engineering report will be written in general accordance with the GDM Chapter 21. The final report will be signed and sealed by a registered SC Professional Engineer and will be submitted with the Preliminary Construction Plans.

Separately, a pavement design analysis and report will be performed and will include two (2) recommendations for pavement thickness. One pavement thickness recommendation will be for milling and replacement / overlay of existing pavement and the other recommendation will be for full depth pavement for roadway extension. As the majority of this project will be new location, this scope of work will also assume (3) alternate pavement designs. The pavement design report will be signed and sealed by a registered SC Professional Engineer and submitted 4 months from the NTP for review by the DEPARTMENT.

The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

This scope of services does not include any work or activities associated with geotechnical investigations for the development of retaining walls, or structures like mast-arms and overhead signs. Retaining walls and other structures are not included in the project.

Task 11

SUBSURFACE UTILITIES ENGINEERING (SUE)

Within 30 days of Notice to Proceed for the contract, the CONSULTANT will provide the COUNTY with a recommendation as to the extent of SUE services to be provided. This should include as much information as can be assembled on utility type, approximate location, owner, and material type. This information will be used to specifically define the limits of the SUE work to be performed.

The CONSULTANT shall perform work in two phases. The first phase consists of designating services (Quality Level B and C). For the purpose of this agreement, "designate" shall be defined as indicating (by marking) the presence and approximate horizontal position of the subsurface utilities by the use of geophysical prospecting techniques. The second phase consists of test hole services (Quality Level A). For the purpose of this agreement, "locate" means to obtain the accurate horizontal and vertical position of the subsurface utilities by excavating a test hole. The CONSULTANT shall provide these services as an aide in the design of right-of-way and construction plans for the project.

Unless specifically stated otherwise, the CONSULTANT shall adhere to the ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02).

Designating shall be estimated on a cost per linear foot basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Locating shall be estimated on a per each basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Traffic control shall be estimated on a per day basis and shown separately. No separate payment will be made for mobilization and should be included in the per linear foot or per each price for designating or locating.

Designating –

A. In the performing of designating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of Quality Level B information for approximately 27,500 LF of underground utilities.
2. Provide all equipment, personnel and supplies necessary for the completion of Quality Level C information for approximately 3,000 LF of underground utilities.
3. Provide all equipment, personnel, and supplies necessary for the accurate recording of information for approximately 11,000 LF of aerial utilities. *The estimation of aerial utilities is measured from power pole to power pole and is not an estimation of each line attached to the poles.*
4. Conduct appropriate records and as-built plans research and investigate site conditions. Digital copies of records and as-built plans research to be provided to COUNTY.
5. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work within the existing streets, roads and rights-of way.
6. Designate the approximate horizontal position of existing utilities by paint markings or pin flags in accordance with the APWA Uniform Color Code scheme along the utility and at all bends in the line in order to establish the trend of the line. All utilities shall

be designated as well as their corresponding lateral lines up to the point of distribution, existing right-of-way limits, or whichever is specifically requested and scoped for each individual project.
7. Survey designating marks, which shall be referenced to project control provided by the surveyor of record.
8. Draft survey information using DEPARTMENT CADD guidelines for Subsurface Utility Engineering consultants (latest version).
9. Final review and seal of all appropriate work by a professional engineer and/or land surveyor licensed in South Carolina in responsible charge of the project.

B. In the performing of designating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.
2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

The above quantities are based on the Level B designation assuming 200 LF feet along Blythewood Road (assumed 10 designated utilities), 1000 LF along Creech Rd (assumed 9 designated utilities), 500 LF along US 21 (assumed 8 designated utilities), 1300 LF along transmission easement (assumed 2 designated utilities), 830 LF along dirt road (assumed 6 designated utilities) and 500 LF across the parking lot area behind the Blythewood IGA grocery store (assumed 6 designated utilities). The CONSULTANT will notify the COUNTY immediately should additional SUE be recommended. The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

Locating –

No locating services (Level A test holes) are included as a direct service associated with this scope of work. Should locating services be deemed necessary during the design and utility coordination services, these services shall be paid for through the project contingency budget on a per Level A test hole cost. CONSULTANT to provide a per test hole cost for future use, should locating services be needed.

The services to be conducted by the CONSULTANT, in the performance of locating services, only as directed and by prior approval by the COUNTY, include the following:

A. In the performance of locating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of Quality Level A test holes.
2. Conduct appropriate records and as-built research and investigate site conditions. All records and as-built research to be made available to the COUNTY.

3. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work within the existing streets, roads and rights-of-way.
4. Perform electronic or ground penetrating radar sweep of the proposed conflict and other procedures necessary to adequately "set-up" the test hole.
5. Excavate test holes to expose the utility to be measured in such a manner that insures the safety of excavation and the integrity of the utility to be measured. In performing such excavations, the CONSULTANT shall comply with all applicable utility damage prevention laws. The CONSULTANT shall schedule and coordinate with the utility companies and their inspectors, as required, and shall be responsible for any damage to the utility during excavation.
6. Provide notification to the COUNTY concerning 1) the horizontal and vertical location of the top and/or bottom of the utility referenced to the project survey datum; 2) the elevation of the existing grade over the utility at a test hole referenced to the project survey datum; 3) the estimated outside diameter of the utility and configuration of non-encased, multi-conduit systems; 4) the utility structure material composition, when reasonably ascertainable; 5) the benchmarks and/or project survey data used to determine elevations; 6) the paving thickness and type, where applicable; 7) the general soil type and site conditions; and 8) such other pertinent information as is reasonable ascertainable from each test hole site.
7. When an attempt to locate a utility line over an area where SUE was performed does not provide valid vertical data, the test hole shall not be reimbursable by the COUNTY. In the following cases, test holes shall be reimbursed by the COUNTY regardless of obtaining valid vertical data:
    a. Utility lines buried in materials that cannot be removed by vacuum techniques other than duct banks,

    The CONSULTANT to provide a separate unit cost for "test holes attempted" and any test holes that do not provide valid vertical data, shall be paid at this rate.
8. Provide permanent restoration of pavement within the limits of the original cut. When test holes are excavated in areas other than roadway pavement, these disturbed areas shall be restored as nearly as possible to the condition that existed prior to the excavation.
9. Draft horizontal location and, if applicable, profile view of the utility on the project plans using CADD standards as outlined above. A station and offset distance and/or northing and easting coordinates (State Plane) with elevations shall be provided with each test hole.
10. Test hole information shall be formatted and presented on CONSULTANT's certification form and listed in a test hole data summary sheet.
11. Certification form shall be reviewed and sealed by a professional engineer and/or land surveyor licensed in South Carolina and in responsible charge of the project.

B. In the performance of locating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.

2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

Task 12

UTILITY COORDINATION ASSISTANCE

The CONSULTANT shall coordinate the project development with the COUNTY's Utility Coordinator. Coordination shall involve inviting the COUNTY's Utility Coordinator to necessary project meetings, providing updates to schedule, and providing project files as requested by COUNTY's Utility Coordinator. The CONSULTANT will provide electronic copies and pdf's of the Survey and Subsurface Utility Engineering as well as a listing of the utilities that exist within the project limits as soon as the information becomes available so that early coordination with utility companies can begin. The COUNTY'S Utility Coordinator will handle coordination of the project development with utility companies. The CONSULTANT will anticipate approximately (2) meetings for Utility Coordination.

Task 13

CONSTRUCTION PHASE SERVICES

The assumption is being made that both the Creech Road Extension project as well as the McNulty Street Improvements project will be bid as one project and let under the same contract with concurrent construction schedules of 12 months. If the decision is made to not combine these projects under one contract or if the construction schedule changes, the CONSULTANT reserves the right to revisit the manhours and costs associated with Task 13 of this scope and request additional compensation.

Bid Document Preparation and Review – The CONSULTANT will provide assistance as necessary to the COUNTY for the preparation and development of the bid document for

advertisement and bidding by the CONTRACTOR. Upon receipt of construction bids by the COUNTY, the CONSULTANT will review the bids and provide a recommendation for award.

The CONSULTANT will also provide a Project Manual containing all pertinent information necessary for the successful bidding of the Creech Road Extension project.

Pre-Construction/Partnering Conference – The CONSULTANT will attend the Pre-Construction/Partnering Conference and respond to questions by the CONTRACTOR pertinent to the design and proposed construction methodology. Assume one Pre-Construction/Partnering Conference.

Construction Phase Project Meetings – The CONSULTANT will attend meetings with the COUNTY to discuss construction issues as needed during the construction of this project. Assume 12 meetings. The CONSULTANT will not be responsible for agendas, minutes, or other materials for this task.

Construction Phase Assistance - The CONSULTANT will assist COUNTY personnel during the construction phase when problems or questions arise relating to the design and proposed construction methodology. Assume 6 hours per month for project construction duration of 12 months.

Construction Revisions – The CONSULTANT will make necessary revisions to construction plans that arise during the construction phase of the project. Assume 4 construction revisions.

Shop Plans and Working Drawings Review – It is assumed no shop plans and working drawings reviews would be required.

Geotechnical Design and Construction Services – The CONSULTANT shall also provide geotechnical construction engineering services which shall include the following items:

- General embankment construction troubleshooting
- Written evaluation of soil strength testing on borrow excavation materials
- The scope of services shall be conducted according to the DEPARTMENT's Standard Specifications, supplemental specifications, and/or plan notes.

The CONSULTANT should anticipate 10 total hours for this task.

As-Built Plans – The CONSULTANT will not be responsible for the development of As-Built Plans for this project.

Services Not Provided

Services not provided by the CONSULTANT include, but are not limited to, the following:

- Electrical plans
- Landscaping, lighting and irrigation plans
- No structural design for new bridges
- Falling Weight Deflectometer (FWD) testing
- Video Pipe Inspection
- The CONSULTANT shall not be the "responsible engineer" referenced IN 2009-04 who evaluates the structural condition and performs the preliminary inspection of existing pipes and culverts to determine if they can be retained. The DEPARTMENT shall determine if existing pipes and culverts are to be retained due to structural conditions. The CONSULTANT will indicate the retention/extension of all existing pipes/culverts which meet the hydraulic requirements unless otherwise directed by the DEPARTMENT
- Sight-specific Response Analysis study
- Utility relocation design and plans
- Utility coordination
- Right-of-way acquisition, exhibits, negotiations, or appraisals
- Administering or advertising the bid process
- Fabricating or erecting signs for public meetings
- Alternate designs for bidding
- Construction Engineering and Inspection (CEI)
- Location of water and sewer utility services for each utility customer in the project area.
- Payment of fees required by state and / or federal review / approval agencies (without reimbursement)
- All other services not specifically included in this scope of work

Services of the COUNTY

The COUNTY agrees to provide to the CONSULTANT, and at no cost to the CONSULTANT, the following upon request, as necessary for the project:

- Access to and use of all reports, data and information in possession of the COUNTY which may prove pertinent to the work set forth herein.
- Existing Policies and Procedures of the COUNTY with reference to geometrics, standards, specifications and methods pertaining to all phases of the CONSULTANT's work.
- Eminent Domain advertisement notice.
- Public Notice Letter
- Approve location and provide road and directions signs for Public Meeting.
- Provide Security guard for the public information meeting.
- Existing roadway plans.
- Provide existing signalized intersection coordination timing(s), existing interconnect plan, and location of master, if applicable.
- Provide Existing utility data provided by Utility Owners within the project area
- Final moving, demolition and reset items list. An initial list will be provided by the CONSULTANT.
- Contract documents (project-specific special provisions to be supplied by CONSULTANT)
- Right-of-Way acquisition.
- As-built roadway plans.
- Construction Engineering and Inspection (CEI)
- Phase I Environmental Site Assessment

Project Deliverables

The CONSULTANT will provide to the COUNTY the deliverable items shown below within the time allotted for each phase of work. Delivery may not be in the order shown.

- Monthly Status Updates
- Meeting Agendas and Meeting Minutes
- Photography / Video (project documentation)
- Attendance at (1) public meeting
- Public Information Meeting materials (as detailed in scope of work)
- Field Surveys and Project DTM updates
- Recommendation for extent of SUE services – 30 days from NTP
- Full size color plots of U-sheets along with Microstation/PDF electronic files
- CADD files (at all plan / design stages)
- Documentation of areas of new rights-of-way (per parcel)
- Jurisdictional Determination (approved by agency)
- USACE General Permit (approved by agency)
- Roadway Design Criteria
- Project Traffic Analysis / Study
- Concept Design and Estimate (update)
- Preliminary Plans
- Preliminary Plans construction cost estimate
- Preliminary Construction Plans
- Preliminary Construction Plans construction cost estimate
- Final Construction Plans
- Project-Specific Special Provisions and Engineer's construction cost estimate
- NPDES permit application / Notice of Intent (and supporting documentation)
- Erosion control computations, if necessary
- Stormwater Management Report
- Geotechnical investigations and roadway report

Schedule

Below is a summary of significant milestones and anticipated submittal timeframes:

Concept Designs & cost estimates *	2	months from NTP
SUE	4	months from NTP
Preliminary Roadway Plans	5	months from NTP
assume COUNTY review (2 weeks)	5.5	months from NTP
Preliminary Construction Plans	7.5	months from NTP
assume COUNTY review (2 weeks)	8	months from NTP
assume OET revisions (2 weeks)	8.5	months from NTP
Final Construction Plans	8.5	months from NTP
assume DEPARTMENT review (6 weeks)	10	months from NTP
assume OET revisions (2 weeks)	10.5	months from NTP

*(includes supplemental field surveys)

The submittal dates include time for COUNTY/DEPARTMENT review as noted

ATTACHMENT "B"
SCOPE OF SERVICES AND SCHEDULE
McNulty Street (S-1362) Improvements

Introduction

Parrish and Partners, LLC (CONSULTANT) has been authorized by Richland County (COUNTY) to provide engineering services for improvements to McNulty Street in the town limits of Blythewood in Richland County, South Carolina. McNulty Street is considered an Urban Local between Blythewood Road and US 21 (Main Street). The DEPARTMENT holds all public rights-of-way adjacent to the roadway between Boney Road and US 21 (Main Street) and assumes all maintenance responsibilities for those said rights-of-way. Richland County (COUNTY) holds a majority of the public rights-of-way adjacent to McNulty Street between Blythewood Road and Boney Road, while a small portion (approaching and at the intersection of Boney Rd) is privately held.

The project will consist of improvements to the existing roadway between US-21 (Main St.) and Blythewood Road (S-59). Bicycle and pedestrian accommodations throughout the corridor are to be included. A single lane roundabout is also proposed to be constructed with this project at, or near, the intersection of McNulty Street and Boney Road in the approximate center of the project. The proposed improvements assume the construction of a curb and gutter roadway with closed drainage system within the termini of the project.

Project Location - The project is located in northern Richland County located in the Town of Blythewood.

Existing Conditions – The proposed McNulty Street Improvements project begins at its intersection with US-21 (Main Street) and extends 0.27 miles west to the intersection with Boney Road. This portion of the project is owned and maintained by the DEPARTMENT. From Boney Road, McNulty continues west southwest for approximately 900 feet. This portion of McNulty is owned by the COUNTY. From this point, McNulty intersects with a privately-owned paved connection with Blythewood Road between the McDonald's and Carolina Wings.

The current posted speed along McNulty Street is 25 mph. McNulty Street is currently a 2-lane facility with sections of valley gutter, shoulder section with roadside ditches, and curb and gutter.

Proposed Project Scope–Final Construction plans will be developed to reflect the implementation of the improvements along McNulty Street to include the following;

- 20-25 mph design speed.
- 11-foot wide travel lanes.
- The addition of bicycle and pedestrian accommodations along the length of the roadway. Bicycle accommodations to be provided via on-street bike lanes. Sidewalks are proposed to be constructed directly behind the curb and gutter.
- Single-lane roundabout at, or near, the intersection of McNulty Street and Boney Road.

Summary of Anticipated Services - An outline of the services anticipated for this project is shown below.

Task 1 - Project Management
Task 2 - Environmental / Public Meeting
Task 3 – Field Surveys
Task 4 - Roadway Design
Task 5 - Pavement Marking and Signing Design
Task 6 – Lighting Plan
Task 7 - Transportation Management Plan
Task 8 - Stormwater Management / Hydraulic Design
Task 9 - Sediment & Erosion Control / NPDES Permitting
Task 10 - Geotechnical Investigations and Engineering Services
Task 11 - Subsurface Utilities Engineering (SUE)
Task 12 - Utility Coordination Assistance
Task 13 - Construction Phase Services

Quality Control

The CONSULTANT shall implement all necessary quality control measures to produce plans and reports that conform to COUNTY guidelines and standards. Prior to submittal to the COUNTY, all plans and reports shall be thoroughly reviewed for completeness, accuracy, correctness, and consistency. Sub-consultants for this project will be required to implement and maintain a stringent quality control program as well. The COUNTY reserves the right to request QA/QC documents (red-lines, checklists, etc) from the CONSULTANT with project deliverables.

Task 1

PROJECT MANAGEMENT

The CONSULTANT shall institute a program for conformance with COUNTY requirements for monitoring and controlling project engineering budget, schedule and invoicing procedures. The CONSULTANT's sub-consultants shall be included in this program. Proposed dates of submittals, completion of tasks, and final completion of pre-construction services as noted in this agreement will be negotiated with the COUNTY. Included in management of the project will be:

- Project meetings between the COUNTY, DEPARTMENT, TOWN and CONSULTANT for clarification of scope, discussion of concepts, review of submittals, etc. at the discretion of the COUNTY.

- The CONSULTANT will prepare meeting agenda and meeting materials as well as record the minutes of each meeting in which it participates and distribute to the appropriate COUNTY personnel.

- Prepare monthly invoices, status reports, and schedule updates. Assume an 8 month design schedule which will impact the duration of preparing invoices, status reports, and schedule updates.

- The CONSULTANT will provide coordination with its SUB-CONSULTANTS during the execution of their work. Assume an 8 month design schedule.

- The CONSULTANT will include the COUNTY in any discussions concerning the project prior to submittal of deliverables if that process has the advantage of expediting the completion of any task of the project.

The CONSULTANT will attend meetings with the COUNTY, TOWN, DEPARTMENT and other stakeholders affected by this project in order to incorporate the needs and desires of these organizations into the decision-making process. It is assumed that the CONSULTANT will attend 10 project meetings (1 each month during the design services) and two (2) additional review coordination meetings with the DEPARTMENT, COUNTY and the TOWN, as applicable. The CONSULTANT will be in attendance at these meetings and will prepare all necessary display materials, meeting agendas and minutes.

Task 2

ENVIRONMENTAL /PUBLIC MEETING

As there are no wetlands adjacent to the project site, nor those that would be directly affected by the project, no wetland permitting is assumed necessary. No environmental documentation or reports are assumed for this scope of services.

Public Coordination/Public Meeting – The CONSULTANT, with input from the COUNTY, shall prepare related public meeting materials, (deliverables would include plan view displays, project overview maps, typical sections, right of way data tables, etc). The CONSULTANT shall provide draft copies (hard copy and pdf) of all display materials to be used in public meetings to the COUNTY for review, a minimum of 15 business days prior to the meeting. The CONSULTANT will also provide the COUNTY with PDF versions of the displays for the public information meeting one week prior to the meeting for posting on the COUNTY website. The CONSULTANT should assume one (1) meeting with COUNTY staff as a planning session to review the public meeting plan. The meeting would be assumed to be held in conjunction with Preliminary Construction Plans.

The COUNTY may provide security guards from local law enforcement agencies or private security firms for all public meetings. The COUNTY will also be responsible for fabricating and erecting signs to be placed on the projects as well as hard copies of all handouts, comment forms, sign-in sheets, etc. The COUNTY will also procure and bring all other items not specifically mentioned below to be provided by CONSULTANT.

The public meeting is planned as an open-house style meeting. The COUNTY may conduct a brief, formal presentation at some time during the public information meeting. The CONSULTANT shall attend the scheduled public meeting and have a minimum of four (4) personnel knowledgeable of the project and its impacts in attendance. The CONSULTANT's role at this meeting is to discuss the project design and impacts with the public in attendance. The CONSULTANT will be responsible for bringing hard copies of the project displays (plan view, typical sections, overview boards, etc) as well as display boards (typical black, foam boards; "GATOR" board, or equivalent) to the meeting; assume three (3) copies of each display to be provided at the meeting. The CONSULTANT will also procure and bring all easels necessary for project display boards.

The public meeting will tentatively be scheduled for 5:00 pm to 7:00 pm on a Tuesday or Thursday at a venue near the project corridor or along the corridor. The CONSULTANT will be responsible for procuring the venue and determination of date and time.

Assumptions

1. One (1) public information meeting will be scheduled prior to finalizing Construction plans.

Deliverables

1. Attendance at one (1) Public Meeting and preparation of all meeting materials.

Task 3

FIELD SURVEYS

Aerial Photography and LiDAR Mapping – The CONSULTANT secured all necessary Aerial Photography and LiDAR Mapping surveys for use during the environmental studies and preparation of the Roadway Plans during the 30% plan preparation stage. Mapping surveys were prepared to the contour accuracy of 0.5 feet (1-foot contour interval). The aerial LiDAR mapping will be prepared for use in plans developed to a horizontal scale of 1" = 20'.

Field annotation of aerial topography, supplementary topographic surveys, and verification of mapping accuracy will be performed by the CONSULTANT.

Control Surveys – The CONSULTANT will establish the Primary, Main and Secondary Survey Control Points to be used during the supplemental topographic surveys and the construction of this project. All surveys will be in accordance with SCDOT's *Pre-Construction Survey Manual* dated October 2012. The CONSULTANT will notify the COUNTY of any required temporary traffic control measures (e.g. shoulder/lane closures, etc.) within seven (7) days before such closure due to survey activities.

Control survey and information provided on plans shall be consistent with SCDOT Preconstruction Design Memorandum 08 (PCDM-08).

Design Surveys – Additional field surveys will be performed by the CONSULTANT as necessary during the design phases of the project. All surveys conducted should be adequate for the design, permitting and construction of the project.

Supplemental field surveys will be conducted by the CONSULTANT to obtain all topographic and planimetric data within the project corridor. CONSULTANT to assume 12 hours for supplemental surveys.

Field surveys will be performed by the CONSULTANT to establish existing rights-of-way and to locate frontal property boundary monumentation for developing property maps per the DEPARTMENT format.

Property owner data will be obtained from county records (plat and deed research) for use in the property surveys and to incorporate property ownership data into the Preliminary Construction Plans. The property monumentation and property owner data will be used to develop a closed out property drawing.

Level runs between existing primary vertical control points will be performed to establish additional benchmarks to be referenced on the contract drawings.

Periodic cross-sections of the existing pavement and ground surface will be performed for aerial LiDAR verification. Periodic sections should be performed at approximately 750 foot intervals (maximum) along the proposed project route. Assume four (4) cross sections to be performed. The CONSULTANT should bring to the attention of the COUNTY in the instance any discrepancies found between field surveyed cross-sections (pavements) and those as shown in the aerial survey provided by LIDAR (under previous contract).

Survey data will be shown on Reference Data Sheets in the '5 series sheets' of the plans due to lack of room on the 1"=20' scale plan sheets.

The CONSULTANT will locate all drainage, stormwater, sanitary sewer structures and above ground utility structures within 100 ft. of the proposed roadway alignments. For drainage, stormwater, sanitary sewer structures, the pipe size, pipe type, structure type and invert / rim elevations shall be obtained. The CONSULTANT will locate and survey the next connecting structure (if outside the 100 ft. area) in order to determine grades / depths of existing facilities.

The CONSULTANT will horizontally and vertically locate all potential outfall drainage ditches and streams. At these outfalls, cross sections will be obtained 400 feet upstream and downstream

at 50-foot intervals, or as necessary to define the channel alignment, from the proposed roadway alignment. All cross sections will be extended from bank to bank of the existing channel plus 10 feet on either side. Assume 4 outfalls for survey.

The CONSULTANT shall update the existing project DTM / topo files (as prepared under previous contract by CONSULTANT) with all supplemental field survey data as shown above.

The CONSULTANT will stake and obtain boring elevations for all geotechnical borings performed on the project by the CONSULTANT.

The CONSULTANT will stake the proposed and present rights-of-way for approximately 50% of the total parcels to be affected, upon direction – assume 12 tracts for this scope of work. Right-of-way staking will consist of placing 36-inch stakes (or paint in paved areas) at all proposed right-of-way breaks, sight triangles and spaced at 100-foot intervals in tangents and 50-foot intervals in curves. These stakes shall be placed after Final Right-of-Way Plans have been developed and only after the Project Manager contacts the CONSULTANT when a property owner requests the right-of-way to be staked.

All right-of-way staking services will be separate from the lump sum amount for Task 3 and will be invoiced on a cost plus, fixed not to exceed amount, only when authorized by the COUNTY.

The CONSULTANT should assume multiple trips as the staking may involve several parcels.

The CONSULTANT will notify the COUNTY's designated Project Manager prior to performing any work on site. The CONSULTANT will not be responsible for obtaining permissions from property owners for surveys outside of the existing Right-of-Way.

Task 4

ROADWAY DESIGN

For this task and all other tasks contained in this scope, the CONSULTANT will utilize the DEPARTMENT standard drawings, specifications, and design manuals that are current as of the first issuance of the task order scope by the COUNTY to the CONSULTANT. For the design of the single-lane roundabout at the intersection of McNulty Street and Boney Road, the CONSULTANT will also utilize the *NCHRP Report 672, Roundabouts: An Information Guide - 2nd edition.*

Traffic Study & Analysis – The Traffic Study & Analysis was developed as part of the 30% design phase of this project by the CONSULTANT.

Preliminary Roadway Plans – The Preliminary Roadway Plans were developed as part of the 30% design phase of this project by the CONSULTANT.

Roundabout Design

A single-lane roundabout at, or near the intersection of McNulty Street and Boney Road is proposed and reflected in the Preliminary Plans. The CONSULTANT shall progress the roundabout design by evaluating the roundabout location and / or type/configuration and associated impacts. The proposed roundabout and associated improvements must have no impacts to the Bethel Baptist Church property at the intersection of McNulty Street and Boney Road.

Work associated with the refinement of the roundabout design should begin immediately upon Notice to Proceed in order to expedite the project and discussion with the COUNTY and stakeholders. CONSULTANT should assume one (1) meeting with stakeholders associated with the roundabout. It is assumed that the roundabout design will need to include appropriate turning templates and fastest path exhibits when submitting to SCDOT for encroachment permit review.

Final Roadway Design and Plans

Roadway Construction Plans – The construction plans will be a continuation of Preliminary Plans (30% complete) and will address comments from the COUNTY review of the preliminary plans.

Construction Plans will be developed in general accordance with the DEPARTMENT's requirements, with the following exceptions:

- Moving Items will only be shown on the Moving Items Sheet.
- The owner's name and any permissions will not be shown on the Plan Sheets. The only property information shown on the plan sheets will be the Tract Number.

The plans will be reviewed by DEPARTMENT District Encroachment personnel. For estimating purposes, it is assumed that 2 review submittals will be made to the DEPARTMENT for comment.

The CONSULTANT will be responsible for providing an initial list of moving and demolition items to the COUNTY for use by the right-of-way agent.

The CONSULTANT will incorporate information obtained during the SUE phase of the project.

The CONSULTANT will provide curb grades around side roads and major driveway radii, where applicable.

The CONSULTANT will establish horizontal and vertical alignments along with cross sections, as needed, in order to study the re-connection of driveways to the roadways. This design data will be shown in the plans in order to convey the extent/impact of the re-configuration of driveways

necessary to provide access to the property. Driveways that are level with the roadway will not have a horizontal or vertical alignment set, but will be handled by only showing their connection in the roadway cross section and plan view based on the roadway cross section.

Plan and profile sheets, as necessary, will show information necessary to permit construction stakeout and to indicate and delineate details necessary for construction.

The CONSULTANT will attend the Construction Plans Design Field Review with the COUNTY to review the project design in the field.

A set of Preliminary Construction Plans (95% complete) will be submitted to the COUNTY for review prior to final plan delivery. The preliminary cost estimate will be updated by the CONSULTANT and submitted with the Preliminary Construction Plans for use by the COUNTY.

On or before the contract completion date, the CONSULTANT will deliver to the COUNTY one complete set of Final Construction Plans, an Engineer's Estimate, and "Project Specific" Special Provisions. See Project Special Provisions and Engineer's Estimate for the description of the Engineer's Estimate and "Project Specific" Special Provisions.

The CONSULTANT will provide one half-size (to scale) hard copy (12"x18"), a full size PDF (22"x36") and CADD files (MicroStation format) at each review stage. Additionally, the CONSULTANT will provide one full size (22"x36") set with Final Construction Plan submittals.

Project Special Provisions and Engineer's Estimate – The CONSULTANT will prepare all "Project Specific" Special Provisions and include them in the format compatible with the DEPARTMENT Construction Administration Section. The CONSULTANT will work closely with COUNTY personnel in the COUNTY'S development of the construction document package.

Also, utilizing recent bid data from similar projects in the area, the CONSULTANT will prepare an Engineer's Estimate for construction of this project. The estimate will be based on the final summary of quantities. The CONSULTANT will attend a meeting with the COUNTY to reconcile differences between the CONSULTANT's estimate and the COUNTY's estimate.

Task 5

PAVEMENT MARKING AND SIGNING

Final pavement marking/signing plans will be prepared at a scale of 1"=20' unless otherwise agreed upon. The plans will consist of an itemized listing of estimated quantities; typicals for installation (DEPARTMENT typicals may be used where applicable), details showing lane lines, edge lines, stop bars, symbol and word messages and other appropriate markings and sign designation numbers and locations. The plans will include dimensions sufficient for field layout. The *Manual on Uniform Traffic Control Devices (MUTCD): 2009 Edition* and DEPARTMENT details will be incorporated into the plans.

Assumptions made as part of meeting with Richland County on July 7, 2020:

1. No overhead signs will be required.

2. No signage that will require the development of signage layout sheets will be required.

3. Pavement marking/signing design and plan sheets will only be required at the intersection of Creech Road and Main Street (US-21).

Task 6

LIGHTING PLAN

A lighting plan will be provided for the entire project corridor and will be prepared at a scale of 1"=20' unless otherwise agreed upon. The lighting plan will also include a photometric analysis. The plans will include dimensions sufficient for field layout. The lighting plan for the roundabout will follow the guidelines as required by *Design Guide for Roundabout Lighting, NCHRP Report 672 Roundabouts: An Information Guide – 2nd edition,* and DEPARTMENT details will be incorporated into the plans.

Task 7

TRANSPORTATION MANAGEMENT PLAN

Work Zone Traffic Control Plans – The design and preparation of one set of Work Zone Traffic Control plans will be accomplished for the roadway project. The plans will include a description of the sequential steps to be followed in implementing the plans, and will be developed at a scale of 1"= 50', unless otherwise agreed upon. The traffic control plans will include lane closures, traffic control devices, temporary lane markings, and construction signing and sequencing notes. The plans will identify lane widths, transition taper widths, and any geometry necessary to define temporary roadway alignments. Also, the plans will address the type of surface to be used for all temporary roadways. Standard traffic control details will be incorporated into the plans for most work activities, but detailed staging plans will be required where impacts upon the normal traffic flow are significant.

Preliminary traffic control plans (and associated pay items and quantities) will be submitted in conjunction with the 95% complete roadway plans, and the final signed and sealed traffic control plans, along with quantities, will be submitted with the final roadway construction plans.

The McNulty Street Improvements project should be assumed an ***"Intermediate"*** project per the DEPARTMENT's *Rule on Work Zone Safety and Mobility.*

Task 8

STORMWATER MANAGEMENT/HYDRAULIC DESIGN

The CONSULTANT conducted preliminary roadway drainage design, stormwater management, and hydraulic design as part of the 30% preliminary design. The task included drainage field reviews/data acquisition, development of drainage design criteria, preliminary major cross-line studies (major cross-lines are designated as cross-line structures including and larger than 48" pipes), preliminary outfall studies, and preliminary studies for FEMA floodplains and jurisdictional stream crossings, if applicable, and preparation of a Preliminary Drainage Summary Report. Detailed ditch design and closed-system stormwater design was not included in the previous scope of work. Additionally, field surveys of drainage structures / cross-lines, etc. were not performed as part of the previous scope of work.

The CONSULTANT will perform the Stormwater Management and Hydraulic Design for the project based on SCDOT Design Guidelines. Design procedures specified by the South Carolina Department of Health and Environmental Control as well as Richland County will be incorporated as needed. Any conflicts in design criteria for the review agencies will be evaluated with the COUNTY to determine the appropriate design procedure for the project. This task includes inspection of the existing drainage structures and roadway drainage.

Roadway Drainage - The roadway drainage design for the project will be completed utilizing design procedures that comply with stormwater management and sediment and erosion control regulations and the NPDES general permit. All drainage calculations will be performed with methods suggested in the DEPARTMENT's *Requirements for Hydraulic Design Studies* dated May 26, 2009 and be made available to the COUNTY for approval.

The CONSULTANT will perform a field review of the project and a visual inspection of the existing drainage systems within the project area. The inspections performed will not include any material testing or structural analysis. The CONSULTANT will document any irregularities in the existing drainage system and provide the data to the COUNTY. If needed, the CONSULTANT will meet with the COUNTY in the field to review and discuss the condition of the existing drainage system prior to reuse in the proposed design. If additional testing or inspection (video pipe inspection) is recommended, the CONSULTANT will prepare the recommendation and submit to the COUNTY for submittal to the DEPARTMENT.

Roadway drainage design for the project is dictated by the project horizontal and vertical geometry. The design will be terminated at available existing outfall locations or at new locations that will be constructed as a part of the project. Drainage areas will be defined from the existing topography as determined from available mapping and field survey. Design year storms will be established in conjunction with DEPARTMENT guidelines for on-site and off-site runoff. For the design year storm, rainfall intensities appropriate for the project area will be determined and the runoff will be calculated for each drainage area. For each contributing sub-area, a structure will be identified to accept the runoff (inlet, cross-pipe, ditch, etc.). Based on accumulation of runoff, appropriate pipe sizes will be chosen to convey the runoff to the outfall. As part of the project design, alternate pipe designs will be developed as per DEPARTMENT Engineering Directive Memorandum No. 24.

The hydrologic analysis of each watershed will be performed with the appropriate method for the Sandhills physiographic region. Pre- and post-construction peak discharges will be computed at each outfall. Outfalls will be evaluated in accordance with DEPARTMENT and NPDES regulations. If required to control stormwater quality or quantity, water quality or detention basins will be added using a hydraulic routing method. Energy dissipaters may also be utilized based on HEC-14 procedures. Outfall channel protective measures will be based on design methods in HEC-15 and/or HEC-11.

Roadway cross-lines will be designed and analyzed according to the principles given in FHWA's Hydraulic Design Series No. 5. Cross-line pipes will be sized based on DEPARTMENT criteria and possible backwater effects. To reduce backwater, multiple pipes or multiple barrel culverts may be used in lieu of a single structure. Closed storm sewer systems will be analyzed with GEOPAK Drainage or XP-SWMM. Roadway inlets will be located based on FHWA's Urban Drainage Design Manual HEC-22. Any roadway ditches will be sized with Manning's equation, and designed using HEC-15 methodologies.

The storm sewer design for the project will be performed to minimize impacts to existing utilities if possible. Existing utility data will be obtained by the COUNTY from the utility owners within the project area. The CONSULTANT will utilize this data as part of the design for the storm sewer systems. The CONSULTANT will adjust pipe locations and inverts if possible. If conflicts cannot be avoided, the CONSULTANT will evaluate the use of utility conflict boxes or other devices to minimize the need for utility relocations. The CONSULTANT and the COUNTY acknowledge not all utility relocations can be avoided.

The CONSULTANT will evaluate the potential impacts from the project on water quality. If dictated by project permitting, the CONSULTANT will utilize water quality best management practices to provide treatment to pavement runoff prior to entering environmentally sensitive areas.

The location of the storm drainage systems will be shown on the roadway plan sheets or replicated drainage sheets. Additional plan information will include pipe and drainage structure size, location, type and elevation. A Stormwater Management Design Report will be prepared for the project based on SCDOT guidelines and will include a project description, drainage approach and methodology, design calculations, soils descriptions, and location maps.

Task 9

SEDIMENT AND EROSION CONTROL/NPDES PERMITTING

Sediment and Erosion Control – The project will include the development of Sediment and Erosion Control Plans as well as the preparation of Supporting Documentation for the Land Disturbance Permit Application.

The erosion control plans will be prepared on replications of the roadway plan sheets at a scale of 1"=20', unless otherwise agreed upon. The erosion control plans will reflect a proposed design for minimizing erosion and off-site sedimentation during construction. The erosion and sediment

control design will include the temporary placement of sediment ponds, sediment dams, silt basins, inlet structure filters, sediment tubes, silt ditches, and diversion dikes at specific locations along the project. The plans will reference the DEPARTMENT's Standard Drawings for Roadway Construction to assist the contractor with the construction of these items. The plans will also identify the need to maintain, clean, and relocate these erosion control measures as the project progresses and address the removal of temporary erosion control devices following construction. The placement of erosion control measures outside proposed right-of-way through the use of temporary easements will be investigated as a possibility if they will not fit within proposed right-of-way. Quantities for erosion and sediment control items will be calculated based on DEPARTMENT typical drawings. Any required erosion control computations will be completed with approved methods and submitted to the COUNTY.

NPDES Permitting – The project will require the acquisition of a National Pollutant Discharge Elimination System (NPDES) permit for construction activities. The NPDES permit is required by the South Carolina Department of Health and Environmental Control (SCDHEC) for all land disturbing activities in South Carolina.

The CONSULTANT will assist the COUNTY with the development of the NPDES permit application as well as with the submission of any required supporting data. The Stormwater Management Report for the project will contain all supporting data developed by the CONSULTANT for the project. The CONSULTANT will provide additional calculations and make revisions to the construction plans as required by the permit reviewer. This scope of services does not include redesign of any elements of the roadway design as a result of comments from the NPDES permit reviewer. Any required revisions would be completed under a separate contract modification.

Task 10

GEOTECHNICAL EXPLORATIONS AND ENGINEERING SERVICES

General – The CONSULTANT will perform a final geotechnical exploration for round-about realignment, shared-use path, four (4) cross line culverts, and shoulder widening. The CONSULTANT will gather samples, conduct tests, and analyze necessary soil and foundation data for roadway realignment for the round-about and shared-use path. The results of the sampling, testing, analysis, and recommendations concerning the design will be compiled into a final report for submittal to the COUNTY. The following design standards will apply:

- 2007 SCDOT Standard Specifications for Highway Construction
- SCDOT Standard Supplemental Specifications and Special Provisions
- 2019 SCDOT Geotechnical Design Manual (GDM), Version 2.0
- 2008 SCDOT Pavement Design Guidelines

Field Exploration (Final Subsurface Exploration) – Prior to beginning the final subsurface field exploration, the CONSULTANT will notify the COUNTY seven (7) days in advance so the COUNTY can coordinate with the DEPARTMENT. The CONSULTANT will

comply with published DEPARTMENT lane closure restrictions. CONSULTANT has assumed that COUNTY will obtain permission from property owners for CONSULTANT to perform borings outside of the DEPARTMENT and COUNTY right-of-way

CONSULTANT will request an SC811 ticket prior to starting field work for the final exploration.

Final boring locations will be determined by the CONSULTANT. The CONSULTANT will provide copies of the proposed final subsurface exploration plans to the COUNTY prior to initiation of field work for review and acceptance. See Chapter 4 of the SCDOT GDM for subsurface exploration guidelines. The final subsurface exploration plan is to include, as a minimum, the following:

- Description of the soil or rock stratification anticipated
- Description of the proposed testing types
- Depth of tests
- Location of tests

Round-about, Pavement Thickness, Shoulder Widening, and Shared-Use Path & Cross-lines– Subsurface Exploration

- Roadway soil test borings will be performed as specified in the SCDOT Geotechnical Design Manual which references the SCDOT Pavement Design Guidelines for boring frequency. The CONSULTANT has assumed that generally cut and fill sections will be three (3) feet or less in height.
- Final soil test borings will be performed at a frequency of approximately 500 feet within the DEPARTMENT's right-of-way, COUNTY right-of-way, or on private property with access permission obtained by the COUNTY.
- Six (6) roadway soil test borings (SPT borings) will be performed up to a depth of 10 feet, or auger refusal (whichever occurs first) inside and/or outside the DEPARTMENT/COUNTY right-of-way.
- Eight (8) cross line culvert borings (SPT borings) for four (4) cross line culverts will be performed up to a depth of 15 feet, or auger refusal (whichever occurs first) inside and/or outside the DEPARTMENT/COUNTY right-of-way.
- Two (2) bulk samples will be obtained from near surface soils.
- Six (6) cores will be cut in the pavement to aid in pavement recommendations and for boring access.

Other Field Testing Items

- Traffic control will be performed in accordance with the latest DEPARTMENT guidelines. It is anticipated that 2 days of lane closures will be necessary.
- At the completion of field work, test locations will be located for latitude and longitude, elevation and station with GPS equipment.

Field Engineering – The CONSULTANT will provide oversight of hand auger borings, drill rig and cone rig operations by a field engineer and/or field geologist. Soil Classification in accordance

with USCS (ASTM 2487) will be performed by a field engineer and/or field geologist who will have a minimum of 3-years of experience in supervision of field equipment and field personnel.

Laboratory Testing – The CONSULTANT will be AASHTO certified in the anticipated laboratory testing outlined below and/or any additional testing that may be required. See Chapter 5 of the SCDOT GDM for AASHTO and ASTM designations. The laboratory testing will be performed on selected samples in order to evaluate the types of soils encountered, confirm visual classifications, and estimate engineering properties for use in design. Laboratory testing may include, as estimate, the following:

- 30 Natural Moisture Content Tests
- 30 Grain Size Distributions with wash No. 200 Sieve
- 30 Moisture-Plasticity Relationship Determinations (Atterberg Limits)
- 4 Standard Proctor Tests
- 2 California Bearing Ratio Tests

Final Roadway Geotechnical Engineering Report – The Final Roadway Geotechnical Engineering Report will be conducted in general accordance with the procedures outlined in the GDM. The report will include a subsurface profile for the final geotechnical subsurface exploration in accordance with the GDM Chapter 4. The final geotechnical engineering report will be written in general accordance with the GDM Chapter 21. The final report will be signed and sealed by a registered SC Professional Engineer and will be submitted with the Preliminary Construction Plans.

Separately, a pavement design analysis and report will be performed and will include two (2) recommendations for pavement thickness. One pavement thickness recommendation will be for milling and replacement / overlay of existing pavement and the other recommendation will be for full depth pavement for roadway widening. It is assumed that only a hot mix asphalt pavement design will be developed for this project. The pavement design report will be signed and sealed by a registered SC Professional Engineer and submitted 4 months from the NTP for review by the DEPARTMENT.

The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

This scope of services does not include any work or activities associated with geotechnical investigations for the development of retaining walls, or structures like mast-arms and overhead signs. Retaining walls and other structures are not included in the project.

Task 11

SUBSURFACE UTILITIES ENGINEERING (SUE)

Within 30 days of Notice to Proceed for the contract, the CONSULTANT will provide the COUNTY with a recommendation as to the extent of SUE services to be provided. This should

include as much information as can be assembled on utility type, approximate location, owner, and material type. This information will be used to specifically define the limits of the SUE work to be performed.

The CONSULTANT shall perform work in two phases. The first phase consists of designating services (Quality Level B and C). For the purpose of this agreement, "designate" shall be defined as indicating (by marking) the presence and approximate horizontal position of the subsurface utilities by the use of geophysical prospecting techniques. The second phase consists of test hole services (Quality Level A). For the purpose of this agreement, "locate" means to obtain the accurate horizontal and vertical position of the subsurface utilities by excavating a test hole. The CONSULTANT shall provide these services as an aide in the design of right-of-way and construction plans for the project.

Unless specifically stated otherwise, the CONSULTANT shall adhere to the ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02).

Designating shall be estimated on a cost per linear foot basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Locating shall be estimated on a per each basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Traffic control shall be estimated on a per day basis and shown separately. No separate payment will be made for mobilization and should be included in the per linear foot or per each price for designating or locating.

Designating –

A. In the performing of designating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of Quality Level B information for approximately 35,000 LF of underground utilities.
2. Provide all equipment, personnel and supplies necessary for the completion of Quality Level C information for approximately 3,500 LF of underground utilities.
3. Provide all equipment, personnel, and supplies necessary for the accurate recording of information for approximately 8,500 LF of aerial utilities. *The estimation of aerial utilities is measured from power pole to power pole and is not an estimation of each line attached to the poles.*
4. Conduct appropriate records and as-built plans research and investigate site conditions. Digital copies of records and as-built plans research to be provided to COUNTY.
5. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work within the existing streets, roads and rights-of way.
6. Designate the approximate horizontal position of existing utilities by paint markings or pin flags in accordance with the APWA Uniform Color Code scheme along the utility and at all bends in the line in order to establish the trend of the line. All utilities shall be designated as well as their corresponding lateral lines up to the point of distribution, existing right-of-way limits, or whichever is specifically requested and scoped for each individual project.

7. Survey designating marks, which shall be referenced to project control provided by the surveyor of record.
8. Draft survey information using DEPARTMENT CADD guidelines for Subsurface Utility Engineering consultants (latest version).
9. Final review and seal of all appropriate work by a professional engineer and/or land surveyor licensed in South Carolina in responsible charge of the project.

B. In the performing of designating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.
2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

The above quantities are based on the Level B designation assuming 27,000 feet along McNulty Street and 100 feet along each side road. It is assumed that there will be 7 designated utilities along McNulty Street and 5 designated utilities alongside roads. The CONSULTANT will notify the COUNTY immediately should additional SUE be recommended. The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

Locating –

No locating services (Level A test holes) are included as a direct service associated with this scope of work. Should locating services be deemed necessary during the design and utility coordination services, these services shall be paid for through the project contingency budget on a per Level A test hole cost. CONSULTANT to provide a per test hole cost for future use, should locating services be needed.

The services to be conducted by the CONSULTANT, in the performance of locating services, only as directed and by prior approval by the COUNTY, include the following:

A. In the performance of locating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of Quality Level A test holes.
2. Conduct appropriate records and as-built research and investigate site conditions. All records and as-built research to be made available to the COUNTY.
3. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work witbin the existing streets, roads and rights-of-way.
4. Perform electronic or ground penetrating radar sweep of the proposed conflict and other procedures necessary to adequately "set-up" the test hole.
5. Excavate test holes to expose the utility to be measured in such a manner that insures tbe safety of excavation and the integrity of the utility to he measured. In performing such excavations, the CONSULTANT shall comply with all applicable utility damage

prevention laws. The CONSULTANT shall schedule and coordinate with the utility companies and their inspectors, as required, and shall be responsible for any damage to the utility during excavation.

6. Provide notification to the COUNTY concerning 1) the horizontal and vertical location of the top and/or bottom of the utility referenced to the project survey datum; 2) the elevation of the existing grade over the utility at a test hole referenced to the project survey datum; 3) the estimated outside diameter of the utility and configuration of non-encased, multi-conduit systems; 4) the utility structure material composition, when reasonably ascertainable; 5) the benchmarks and/or project survey data used to determine elevations; 6) the paving thickness and type, where applicable; 7) the general soil type and site conditions; and 8) such other pertinent information as is reasonable ascertainable from each test hole site.
7. When an attempt to locate a utility line over an area where SUE was performed does not provide valid vertical data, the test hole shall not be reimbursable by the COUNTY. In the following cases, test holes shall be reimbursed by the COUNTY regardless of obtaining valid vertical data:
    a. Utility lines buried in materials that cannot be removed by vacuum techniques other than duct banks,

    The CONSULTANT to provide a separate unit cost for "test holes attempted" and any test holes that do not provide valid vertical data, shall be paid at this rate.
8. Provide permanent restoration of pavement within the limits of the original cut. When test holes are excavated in areas other than roadway pavement, these disturbed areas shall be restored as nearly as possible to the condition that existed prior to the excavation.
9. Draft horizontal location and, if applicable, profile view of the utility on the project plans using CADD standards as outlined above. A station and offset distance and/or northing and easting coordinates (State Plane) with elevations shall be provided with each test hole.
10. Test hole information shall be formatted and presented on CONSULTANT's certification form and listed in a test hole data summary sheet.
11. Certification form shall be reviewed and sealed by a professional engineer and/or land surveyor licensed in South Carolina and in responsible charge of the project.

B. In the performance of locating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.
2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

Task 12

UTILITY COORDINATION ASSISTANCE

The CONSULTANT shall coordinate the project development with the COUNTY's Utility Coordinator. Coordination shall involve inviting the COUNTY's Utility Coordinator to necessary project meetings, providing updates to schedule, and providing project files as requested by COUNTY's Utility Coordinator. The CONSULTANT will provide electronic copies and pdf's of the Survey and Subsurface Utility Engineering as well as a listing of the utilities that exist within the project limits as soon as the information becomes available so that early coordination with utility companies can begin. The COUNTY'S Utility Coordinator will handle coordination of the project development with utility companies. The CONSULTANT will anticipate approximately (2) meetings for Utility Coordination.

Task 13

CONSTRUCTION PHASE SERVICES

The assumption is being made that both the Creech Road Extension project as well as the McNulty Street Improvements project will be bid as one project and let under the same contract with concurrent construction schedules of 12 months. If the decision is made to not combine these projects under one contract or if the construction schedule changes, the CONSULTANT reserves the right to revisit the manhours and costs associated with Task 13 of this scope and request additional compensation.

Bid Document Preparation and Review – The CONSULTANT will provide assistance as necessary to the COUNTY for the preparation and development of the bid document for advertisement and bidding by the CONTRACTOR. Upon receipt of construction bids by the COUNTY, the CONSULTANT will review the bids and provide a recommendation for award.

The CONSULTANT will also provide a Project Manual containing all pertinent information necessary for the successful bidding of the McNulty Street Improvements project.

Pre-Construction/Partnering Conference – The CONSULTANT will attend the Pre-Construction/Partnering Conference and respond to questions by the CONTRACTOR pertinent to

the design and proposed construction methodology. Assume one Pre-Construction/Partnering Conference.

Construction Phase Project Meetings – The CONSULTANT will attend meetings with the COUNTY to discuss construction issues as needed during the construction of this project. Assume 12 meetings. The CONSULTANT will not be responsible for agendas, minutes, or other materials for this task.

Construction Phase Assistance - The CONSULTANT will assist COUNTY personnel during the construction phase when problems or questions arise relating to the design and proposed construction methodology. Assume 6 hours per month for project construction duration of 12 months.

Construction Revisions – The CONSULTANT will make necessary revisions to construction plans that arise during the construction phase of the project. Assume 4 construction revisions.

Shop Plans and Working Drawings Review – It is assumed no shop plans and working drawings reviews would be required.

Geotechnical Design and Construction Services – The CONSULTANT shall also provide geotechnical construction engineering services which shall include the following items:

- General embankment construction troubleshooting
- Written evaluation of soil strength testing on borrow excavation materials
- The scope of services shall be conducted according to the DEPARTMENT's Standard Specifications, supplemental specifications, and/or plan notes.

The CONSULTANT should anticipate 10 total hours for this task.

As-Built Plans – The CONSULTANT will not be responsible for the development of As-Built Plans for this project.

Services Not Provided

Services not provided by the CONSULTANT include, but are not limited to, the following:

- Electrical plans
- Landscaping and irrigation plans
- Environmental Assessment Documentation
- No CLOMR/LOMR
- Falling Weight Deflectometer (FWD) testing
- Video Pipe Inspection
- The CONSULTANT shall not be the "responsible engineer" referenced IN 2009-04 who evaluates the structural condition and performs the preliminary inspection of existing pipes and culverts to determine if they can be retained. The DEPARTMENT shall determine if existing pipes and culverts are to be retained due to structural conditions. The CONSULTANT will indicate the retention/extension of all existing pipes/culverts which meet the hydraulic requirements unless otherwise directed by the DEPARTMENT
- Sight-specific Response Analysis study
- Utility relocation design and plans
- Right-of-way acquisition, exhibits, negotiations, or appraisals
- Administering or advertising the bid process
- Fabricating or erecting signs for public meetings
- Alternate designs for bidding
- Construction Engineering and Inspection (CEI)
- Location of water and sewer utility services for each utility customer in the project area.
- All other services not specifically included in this scope of work

Services of the COUNTY

The COUNTY agrees to provide to the CONSULTANT, and at no cost to the CONSULTANT, the following upon request:

- Access to and use of all reports, data and information in possession of the COUNTY which may prove pertinent to the work set forth herein.
- Existing Policies and Procedures of the COUNTY with reference to geometrics, standards, specifications and methods pertaining to all phases of the CONSULTANT's work.
- Eminent Domain advertisement notice.
- Coordinate, advertise, fabricate and erect signs, and approve location for Public Meeting.
- Provide security guard for the public information meeting.
- Payment of fees required by state and federal review/approval agencies.
- Final processing of JD and Wetlands Permit and coordination with the agencies.
- Existing roadway plans.
- Provide existing signalized intersection coordination timing(s), existing interconnect plan, and location of master, if applicable.
- Provide existing utility data provided by Utility Owners within the project area
- Final moving, demolition and reset items list. An initial list will be provided by the CONSULTANT.
- Contract documents (project specific special provisions to be supplied by CONSULTANT)
- Right-of-Way acquisition.
- Right-of-Way verification.
- As-built roadway plans.
- Construction Engineering and Inspection (CEI)

Project Deliverables

The CONSULTANT will submit the deliverable items shown below within the time allotted for each phase of work. Delivery may not be in the order shown.

- Monthly status updates
- Meeting agendas and minutes
- Attendance at one (1) public meeting
- Public Meeting displays
- PDF versions of the Public Meeting displays
- Recommendation for extent of SUE services – 15 days from NTP
- Full size color plots of U-sheets along with Microstation/PDF electronic files
- Project Microstation files (at all plan stages)
- Stormwater Management Report
- Preliminary Roadway Construction Plans
- Final Roadway Construction Plans, project specific specifications, and Engineer's construction cost estimate
- NPDES permit application/Notice of Intent
- Erosion control computations, if necessary
- Preliminary and final geotechnical roadway reports

Schedule

Below is a summary of significant milestones and anticipated submittal timeframes:

Field Surveys	2	months from NTP
SUE	4	months from NTP
Preliminary Construction Plans	5	months from NTP
assume COUNTY review (2 weeks)	5.5	months from NTP
assume OET revisions (2 weeks)	6	months from NTP
Final Construction Plans	6	months from NTP
assume DEPARTMENT review (6 weeks)	7.5	months from NTP
assume OET revisions (2 weeks)	8	months from NTP

The submittal dates include time for COUNTY/DEPARTMENT review as noted.

Service Order
For
On Call Engineering Services Agreement

SERVICE ORDER NO. C&D#10

Date: August 31, 2020

This Service Order No. C&D #10 is issued by Richland County, South Carolina (the "County"), to Cox & Dinkins, INC. (the "Consultant") pursuant to that Agreement dated February 11, 2015 between the County and the Consultant called "On Call Engineering Services Agreement Related to the Richland County, South Carolina Sales Tax Public Transportation Improvement Plan" (the "Agreement"), and to the Agreement to provide engineering services for the Crane Creek Neighborhood Improvements, Phase 3.

This Service Order, together with the Agreements and Amendments form a Service Agreement. A Service Agreement represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations, or agreements, either written or oral. A Service Agreement may be amended or modified only by a Change Order or Change Directive as provided for in the Agreement.

I. Scope of Services.

A. Unless otherwise provided in an exhibit to this Service Order, this Service Order and the Service Agreement are based on the information set forth below:

See Exhibit A – Scope of Services

B. Unless otherwise provided in an exhibit to this Service Order, the Consultant's Services to be provided pursuant to this Service Order are:

See Exhibit A – Scope of Services

C. Unless otherwise provided in an exhibit to this Service Order, the County's anticipated dates for commencement of the Services and Completion of the Services are set forth below:

1. Commencement Date: *as per executed Notice to Proceed*
2. Completion Date: *See Exhibit A – Scope of Services - Schedule*

D. Key personnel assigned by Consultant to this Service Scope of Work:

1. Gene Dinkins, President (Principal)
2. McTilden Atkins, P.E. (Partner: Senior Project Engineer)

II. Insurance

The Consultant shall maintain insurance as set forth in the Agreement. If the Consultant is required to maintain insurance exceeding the requirements set forth in the Agreement, those additional requirements are as follows:

N/A

III. Owner's Responsibilities.

In addition to those responsibilities the County may have as stated in the Agreement, the County in connection with this Service Order only shall:

N/A

IV. Consultant's Compensation.

A. The Consultant shall be compensated for Services provided under this Service Order as follows:

Lump Sum		$	*551,710.00*
Approved Direct Expenses		$	*1,1147.88*
Cost Plus Fixed Fee		$	*00.00*
	Total	$	*552,824.88*
*Contingency – Not to Exceed**		$	*55,171.00*

**Requires approval from Richland County to authorize contingency*

B. Additional Services. Unless otherwise provided in an exhibit to this Service Order, any Additional Services by the Consultant shall be paid as Additional Services as provided in the Agreement.

V. Additional Exhibits.

The following exhibits and/or attachments are incorporated herein by reference thereto:

Exhibit A – Scope of Services

VI. Execution of Service Agreement

The Execution of this Service Order by the County below constitutes a Service Order to the Consultant. The execution of this Service Order by the Consultant creates the Service Agreement.

NOW, THEREFORE, in consideration of the foregoing, the sufficiency of which is hereby acknowledged by the parties, this Service Agreement is entered into Under Seal as of the Effective Date of _____, 2020.

WITNESS:

RICHLAND COUNTY, SOUTH CAROLINA

By: _____ (L.S.)

Leonardo Brown, MBA, CPM

Its: Richland County Administrator

Date: _____

CONSULTANT:

COX & DINKINS, INC

WITNESS:

By: _____ (L.S.)

Its: Partner

Date: 9/2/2020

EXHIBIT A: SCOPE OF SERVICES

ATTACHMENT "A"
SCOPE OF SERVICES AND SCHEDULE
Crane Creek Neighborhood Improvements – Phase 3

Introduction

Cox & Dinkins, Inc. (CONSULTANT) has been authorized by Richland County (COUNTY) to provide engineering services for the Crane Creek Neighborhood Improvements. This document outlines the Phase 3 scope of services to develop final plans for projects that will be implemented for the Crane Creek Neighborhood.

Project Location - The project area is located in NW Columbia just west of I-20 with boundaries of Monticello Rd, Fairfield Rd, Heyward Brockington Rd, and Crane Church Rd.

Proposed Project Scope – The **CONSULTANT** shall prepare preliminary through final construction plans for the projects noted below. The improvements for the Phase 3 Scope of Work shall be as follows:

Neighborhood Sidewalk Design:

1. Dakota Drive Sidewalk

The Dakota Dr Sidewalk Project consists of constructing a new 5.0 ft. wide 4" thick concrete sidewalk on a side to be determined after survey. This project will begin at the intersection of Welland and Heyward Brockington Rd continuing along Welland St then Dakota for a distance of approximately 4,790 feet terminating hack at Heyward Brockington.

Dakota Dr Assumptions:

- New sidewalk shall tie into the new Heyward Brockington sidewalk.
- Slope easements for driveway work will be obtained by the **CONSULTANT**.
- Slope permissions will be obtained for any encroachments outside of existing Right-of-Way limits by the **CONSULTANT**.
- The **COUNTY** will provide existing roadway plans.

2. Seagull Lane Sidewalk

The Seagull Ln Sidewalk Project consists of constructing a new 5.0 ft. wide 4" thick concrete sidewalk along the west/south side of Seagull Ln. This project will begin at the intersection of Blue Ridge Terrace and Flamingo Dr continuing along Flamingo Dr. for approximately 300'. The sidewalk with then turn onto Seagull ln. extending to Widgean Dr. for a distance of approximately 2,030 feet.

Seagull Ln Assumptions:

- Sidewalk to be constructed along the west/south side of Seagull Ln. and west side of Flamingo Dr.
- Slope easements for driveway work will be obtained by the **CONSULTANT**.

- Slope permissions will be obtained for any encroachments outside of existing Right-of-Way limits by the **CONSULTANT.**
- The **COUNTY** will provide existing roadway plans.

3. Roberson Street Sidewalk

The Roberson St. Sidewalk Project consists of constructing a new 5.0 ft. wide 4" thick concrete sidewalk along one side of Roberson St. This project will begin at Bon Air Dr and extend across Heyward Brockington Rd and continue along Roberson St. tying back into Heyward Brockington Rd. for a distance of approximately 3,540 feet.

Roberson St Assumptions:

- Sidewalk to be constructed along the insides loop of Roberson St.
- Slope easements for driveway work will he obtained by the **CONSULTANT.**
- Slope permissions will be obtained for any encroachments outside of existing Right-of-Way limits by the **CONSULTANT.**
- The **COUNTY** will provide existing roadway plans.

4. Lincolnshire North Drive Sidewalk

The Lincoln Shire North Drive Sidewalk Project consists of constructing a new 5.0 ft. wide 4" thick concrete sidewalk the west side of Lincolnshire N. Dr. This project will begin at Saddletrail Rd and extend to Calvary Dr for a distance of approximately 1,600 feet.

Lincoln Shire North Dr Assumptions:

- Sidewalk to be constructed along the west side of Lincoln Shire North Dr.
- Slope easements for driveway work will be obtained by the **CONSULTANT.**
- Slope permissions will be obtained for any encroachments outside of existing Right-of-Way limits by the **CONSULTANT.**
- The **COUNTY** will provide existing roadway plans.

Summary of Anticipated Services - An outline of the initial services for thc Crane Creek Neighborhood Improvement project is shown below.

Task 1 – Project Management
Task 2 – Environmental Services/Permitting Support
Task 3 – Public Meeting
Task 4 – Survey
Task 5 – Sidewalk Design
Task 6 – Stormwater Management/Hydraulic Design
Task 7 – Sediment and Erosion Control/NPDES Permitting
Task 8 – Structures Design and Plans
Task 9 – Utility Coordination Assistance
Task 10 – Construction Services

The CONSULTANT shall implement all necessary quality control measures to produce plans and reports that conform to COUNTY guidelines and standards. Prior to submittal to the COUNTY, all plans and reports shall be thoroughly reviewed for completeness, accuracy, correctness, and consistency. Subconsultants for this project will be required to implement and maintain a stringent quality control program. The COUNTY reserves the right to request QA/QC documents (red-lines, checklists, etc) from the CONSULTANT with project deliverables.

Task 1

PROJECT MANAGEMENT

The **CONSULTANT** shall institute a program for conformance with **COUNTY** requirements for monitoring and controlling project engineering budget, schedule and invoicing procedures. The **CONSULTANT**'s subconsultants (if any) shall be included in this program. Proposed dates of submittals, completion of Tasks, and final completion of pre-construction services as noted in this agreement will be negotiated with the **COUNTY**. Included in management of the project will be:

1.1 Project meetings between the **COUNTY**, Crane Creek Neighborhood, and **CONSULTANT** for clarification of scope, discussion of concepts, review of submittals, etc. at the discretion of the **COUNTY**.

1.2 The **CONSULTANT** will prepare meeting agenda and meeting materials as well as record the minutes of each meeting in which it participates and distribute to the appropriate **COUNTY** personnel.

1.3 Prepare monthly invoices, status reports, and schedule updates. Assume a 18-month design schedule which will impact the duration of preparing invoices, status reports, and schedule updates. Assume a 9-12-month construction schedule which will impact the duration of invoicing for Construction Phase Services. This assumes that all 7 sidewalks (ph. 2 and ph.3) will be designed as separate projects. However, the intent is to have all 7 projects let at the same time. The **COUNTY** will control the letting and setting of the construction schedule.

1.4 The **CONSULTANT** will provide coordination with its SUB-CONSULTANTS during the execution of their work.

1.5 The **CONSULTANT** will include the **COUNTY** in any discussions concerning the project prior to submittal of deliverables if that process has the advantage of expediting the completion of any task of the project.

1.6 **CONSULTANT** shall provide a Gantt Chart format design schedule detailing durations, plan submission dates, cost estimate submittals, etc. The schedule shall cover time through final construction document submission.

Assumptions:

1. Two (2) project meetings will be held on-site in Richland County with the **COUNTY**, and any additional personnel deemed necessary.
2. Up to eight (8) project status update meetings will be held with the **COUNTY**.

Deliverable:

1. Monthly status reports shall be included with monthly invoices.
2. Meeting agendas and meeting minutes covering all project meetings. Meeting agendas are to be provided to the COUNTY within two (2) business days prior to all meetings. Meeting minutes are to be provided to the COUNTY within three (3) business days after all meetings.

Task 2

ENVIRONMENTAL SERVICES/PERMITTING SUPPORT

The **CONSULTANT** will be responsible for the required coordination with Local, State and Federal agencies regarding environmental services to ensure the program is in compliance with appropriate environmental regulations to obtain a Wetlands Permit and Land Disturbance Permit. The **CONSULTANT** will provide specific documentation, including but not limited to project information, applications and drawings as necessary for acquisition of the required permits.

2.1 Initial Field Surveys and Project Initiation

Project Initiation – Within two weeks of the date that the **COUNTY** provides a Notice to Proceed (NTP) for the subject project, and prior to commencement of design, the **CONSULTANT** shall make a determination of the environmental and/or navigational permits expected to be required for the subject project on a permit determination form. This information will inform the **COUNTY** of the anticipated permits and will he incorporated in the project schedule to ensure compliance.

Coordination – The **CONSULTANT** will coordinate with the **COUNTY** and may attend coordination meetings with state and federal resource agencies and document all discussions and understandings that are reached.

Jurisdictional Delineations – The **CONSULTANT** shall perform Jurisdictional Delineations utilizing the three-parameter approach (hydric soils, hydrophytic vegetation and wetland hydrology) set forth in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, and subsequent Regional Supplements. The upland/wetland boundaries will be appropriately flagged in the field and surveyed using sub-meter GPS or survey data. The **CONSULTANT** will plot the wetland boundaries on a surveyed map for inclusion with the JD request.

The **CONSULTANT** shall prepare a request for a preliminary jurisdictional determination (JD) or, at the request of the **COUNTY**, an approximate JD letter for the project corridor.

This submittal will be prepared according to the USACE's Request for Corps Jurisdictional Determination/Delineation guidance (effective May 1, 2017). The completed request package, including drawings, will be submitted to the **COUNTY** for their review. Upon notice from the **COUNTY** the **CONSULTANT** shall submit for final processing and coordination with the agencies.

2.2 Permits

If applicable, the **CONSULTANT** shall prepare the Joint Federal and State Permit Application Package in the format specified by the Charleston District Corps of Engineers. The **CONSULTANT** shall complete all forms, documentation, and drawings as directed by the **COUNTY** that are part of the permit application package. The **COUNTY** or **DEPARTMENT** will execute the application form as the applicant, and may designate the **CONSULTANT** as the agent in the processing of the permit application, if so desired. It is assumed that any permits would be authorized under the SCDOT General Permit and will be prepared according to current **DEPARTMENT** standards which include the following:

Joint Federal and State Application Form

Permit Drawings: Drawings depicting the proposed impacts to waters of the U.S. on the subject property. The **CONSULTANT** shall include the surveyed or measured boundaries of jurisdictional waters superimposed on the actual development/grading plans to establish the proposed jurisdictional impacts.

Impact Assessment Form and Supplemental Information: The **CONSULTANT** shall include a completed Impact Assessment Form, which includes, but is not limited to the following:

- Project Information
- Proposed impacts to WOUS
- Alternative Analysis
- Avoidance & Minimization
- Hydrology & Hydraulics
- Section 106 of the National Historic Preservation Act
- Threatened and Endangered Species.

Mitigation Plan: In accordance with regulatory requirements, the **CONSULTANT** will develop a conceptual mitigation plan and submit it as part of the application package. It is assumed that any mitigation needed for this project will be acquired from the proposed **COUNTY** Mitigation Site.

The **CONSULTANT** will coordinate directly with the **DEPARTMENT**, USACE, SCDHEC and other federal, state and local regulatory personnel throughout the course of the permit application process, and coordinate the submission of any additional information as requested by the respective agencies in order to facilitate permit acquisition. The **CONSULTANT** may be asked to assist in the coordination effort, and will not coordinate with the agencies unless directed by the COUNTY.

Assumptions

1. An Approximate-Preliminary is the anticipated type of Jurisdictional Determination requested.
2. A SCDOT USACE General or Nationwide Permit is the anticipated level of USACE permitting required. Mitigation costs, if necessary, are not included.
3. No navigational (State Navigable Waters or US Coast Guard) permitting is anticipated.
4. Detailed cultural resources surveys are not anticipated as part of the permitting process. The **CONSULTANT** will utilize the GIS database, via ARCSite, to identify any known historic resources.
5. Impacts to protected species are not anticipated. Furthermore, informal or formal consultation with the US Fish and Wildlife Service is not anticipated.
6. The **CONSULTANT** will conduct all agency coordination and permit negotiations; the **COUNTY** may be asked to assist as necessary.
7. A National Environmental Policy Act (NEPA) document is not required.

Deliverables

1. Permit Determination Form
2. Jurisdictional Determination Request Package
3. SCDOT USACE General or Nationwide Permit Application Package, including supplemental documentation

Task 3

PUBLIC MEETING

The COUNTY, shall prepare necessary public meeting materials, (deliverables would include project design displays, project overview boards, project typical sections, right of way data tables, etc). The CONSULTANT shall provide draft copies of design materials to be used in the public meetings to the COUNTY for use in preparation of meeting materialsa minimum of 15 business days prior to the public meeting.

The COUNTY may provide security guards from local law enforcement agencies or private security firms for the public meetings. The COUNTY will be responsible for fabricating and erecting signs to be placed on the project as well as any directional signage needed at the public meeting venue(s). The COUNTY will also procure and bring all easels (for project display boards, provided by COUNTY, see below) and all other items not specifically mentioned below to be provided by COUNTY.

The public meetings are planned as open-house style meetings. The COUNTY may conduct a brief formal presentation at some time during the public meetings. The CONSULTANT shall attend the scheduled public meetings and have a minimum of four (4) personnel knowledgeable of the project and its impacts in attendance. The CONSULTANT's role at the meetings is to discuss the project design and impacts with the public in attendance. The COUNTY will be responsible for bringing hard copies of the project displays (plan view, typical sections, overview boards, etc.) as well as display boards (typical black, foam boards; "GATOR" board, or equivalent) to the meetings; assume two (2) copies of each display to be provided.

The public meetings will tentatively be scheduled from 5:00 pm to 7:00 pm at a venue near the project or along the project corridor. The COUNTY will be responsible for procuring the venue and determination of date and time, media notices, public notices, public meeting directional signage, coordinating for the presence of public safety officer(s) and general management of the meeting and presentation.

Upon conclusion of the public comment periods, the COUNTY will prepare public meeting summaries to include a summary of the public comments received. The COUNTY will also prepare and provide a document (Excel format), in matrix format, which includes the public comments, citizen names and contact info, and space for COUNTY responses to each comment. The COUNTY will be responsible for development of all responses and individual response letters.

The public meeting is planned to be held prior to finalization of the design and plans under this scope of work. The intent of the meeting is to present detailed design and specific impacts associated with the planned work.

Assumptions

1. One (1) public meeting
2. The **COUNTY** will provide an Excel file of the comment summaries including commenter name, contact information and specific comment.
3. The **COUNTY** will provide printed and PDF copies of all displays.
4. The **COUNTY** will print all displays for the public meeting. The **COUNTY** will also provide black foam board for the displays.
5. The **CONSULTANT** assumes up to 100 comments will be received and included in the analysis for each meeting.
6. Draft copies of the design information for the displays shall be submitted to the **COUNTY** 15 business days prior to the public meeting.
7. Meeting Preparation and Debrief meetings will be held at Richland County Penny Offices in Columbia, SC with participation of (1) **CONSULTANT** team member.
8. Participation of four (4) **CONSULTANT** team members at the Public Meeting.

Assumptions:

- **COUNTY** will provide printed and PDF copies of all displays (up to 6 – 32 in. x 42 in. or 36 in. x 48 in.)
- The **COUNTY** will prepare any handouts, sign in sheets, or power point presentations.

- The **COUNTY** will prepare a summary of the meeting.
- Draft copies of the displays shall be submitted to the **COUNTY** in PDF format.

Task 4

FIELD SURVEY

The **CONSULTANT** shall collect all necessary survey data for the purposes of developing preliminary and final construction documents.

Control Surveys

The **CONSULTANT** will establish the Level 1, 2 and 3 Control Points to be used during the supplemental topographic surveys and the construction of these projects. All surveys will be in accordance with SCDOT's *Pre-Construction Survey Manual* dated August 2012. The **CONSULTANT** will notify the **COUNTY** of any required temporary traffic control measures (e.g. shoulder/lane closures, etc.) within seven (7) days before such closure due to survey activities.

Design Survey

Field surveys will be performed by the **CONSULTANT** as necessary during the design phases of the project for the limits of Dakota Drive, Roberson Street, Seagull Lane, and Lincolnshire North Drive within the limits described above in the project scope. Topographic surveys will be performed at a minimum 50 feet on one side of the roadway centerline and to the back of curb on the opposite side. Dakota Drive will be surveyed on both sides of the centerline.

The **CONSULTANT** will establish existing rights-of-way from available plats and deeds. GIS data provided by the County will be utilized to show approximate property lines on the plans.

Property-owner data will be obtained from county records for use in the property surveys and to incorporate property ownership data into the Plans.

Level runs between existing primary vertical control points will be performed to establish additional bench marks to be referenced on the contract drawings. Assume some projects may need additional benchmarks.

The **CONSULTANT** will survey topographic features including above ground utility features. Through the South Carolina 811 (SC811) Utility Locating service, the **CONSULTANT** will call in utility locates and survey marked existing utilities. When utilities have not responded to utility locate requests, the **CONSULTANT** will contact the utility directly to request the utility locate. After direct contact, if the utility still has not been marked, the **CONSULTANT** shall report to SC811 that no response has been made.

The **CONSULTANT** will locate all drainage features. The pipe size, pipe type, and invert elevations shall be obtained.

Based upon request from the Right-of-Way Agent, the **CONSULTANT** will stake the proposed right-of-way for all projects that may require additional Right-of-Way. Right-of-way staking will consist of placing 36" stakes (or paint in paved areas) at all proposed right-of-way breaks, sight triangles and spaced at 100 ft. intervals in tangents and 50 ft. intervals in curves. These stakes shall be placed after Final Plans have been developed. The Right-of-Way staking will be separate from the lump sum amount for this task and will be invoiced at a cost plus fixed fee not to exceed unless authorized. The **CONSULTANT** should assume multiple trips.

Traffic Controls and Safety

The **CONSULTANT** will notify the **COUNTY** of any required temporary traffic control measures (e.g., shoulder/lane closures, etc.) within seven (7) days before such closure due to survey activities. Appropriate signage for traffic control purposes will be maintained at all times when working within or near the existing traffic areas.

Assumptions

1. Field surveys for property closures or to locate property monumentation will not be performed.
2. Approximately 25% of the ROW will be staked.

Deliverables

1. The consultant will provide a CD containing all survey files in DGN Format.

Task 5

SIDEWALK/ STREETSCAPES DESIGN

5.1 Preliminary Project Design and Plans

Preliminary Plans –A typical section will be developed by the **CONSULTANT** and provided to the **COUNTY** for submittal to the **DEPARTMENT** for approval. Upon approval the preliminary plans will be developed to the level of detail of approximately 30% Complete Construction Plans that comply with DEPARTMENT RDM standards for 30% plans. The Preliminary Plans for the project will be prepared at a scale of 1"=20' (unless otherwise noted in the Assumptions portions of the project descriptions) to illustrate pertinent information associated with design. The plans will be sufficiently developed to illustrate the Preliminary limits of construction for each project.

Preliminary Cost Estimate – A cost estimate will be prepared by the **CONSULTANT** and submitted along with the Preliminary plans for use by the **COUNTY**. The **COUNTY** will use this cost estimate in order to determine whether or not the scope of the project needs to be reduced or expanded due to budgetary constraints.

The **CONSULTANT** will attend the Preliminary Plans Design Field Review with the **COUNTY**

to review the project design in the field.

Upon completion of the Preliminary Plans, the **CONSULTANT** will provide the **COUNTY** with two (2) half-size hard copy sets of plans along with a CD containing PDF's (half-size and full size).

For this task and all other tasks contained in this scope, the **CONSULTANT** will utilize the **DEPARTMENT** standard drawings, specifications, and design manuals that are current as of the first issuance of the task order scope by the **COUNTY** to the **CONSULTANT**.

Assumptions

1. **COUNTY** to provide one round of written comments within two (2) weeks after initial submittal.
2. One (1) Design Field Review at the completion of 30% plans will be held.

Deliverables

1. One (1) half-size hard copy set of plans along with a CD containing PDF's (half-size and full size).
2. One (1) electronic pdf copy of preliminary construction costs.

5.2 Right-of-Way Plans

Right-of-Way Plans will be developed in accordance with the DEPARTMENT's *Road Design Reference Material For Consultant Prepared Plans* dated June 2010, with the following exceptions:

- Moving Items will only be shown on the Moving Items Sheet.
- The owner's name and any permissions will not be shown on the Plan Sheets. The only property information shown on the plan sheets will be the Tract Number.

The **CONSULTANT** will incorporate information obtained during the utilities phase of the project.

The **CONSULTANT** will provide curb grades around side roads and major driveway radii, where applicable.

The **CONSULTANT** will evaluate horizontal and vertical alignments along with cross sections as needed in order to study the re-connection of driveways. This design data, limits line, will be shown in the plans in order to convey the extent/impact of the re-configuration of driveways necessary to provide access to the property. Driveways will not have a horizontal or vertical alignment set, but will be handled by only showing their connection in the roadway cross section and plan view based on the roadway cross section. Curb grades will be provided for planted medians, around side roads and any major driveway radii, as necessary.

The **CONSULTANT** will attend the Right-of-Way Plans Design Field Review with the **COUNTY** to review the project design. It is assumed that this review will be held at the Richland County Penny Sales Tax office utilizing desktop-level information (plans and Google Earth imagery).

The **CONSULTANT** will be responsible for providing an initial list of moving and demolition items for use by the CONSULTANT'S right-of-way agent. **right-of-way agent CONSULTANT'S** to provide the final moving and demolition list to the **CONSULTANT** for inclusion in the plan set.

A set of preliminary Right-of-Way Plans will be submitted to the COUNTY for review and comment. Following the review and approval of the preliminary Right-of-Way Plans, the CONSULTANT will submit final Right-of-Way Plans.

Electronic media receivables for Right-of-Way Plans will be provided and will include the information outlined in the DEPARTMENT's *Road Design Reference Material For Consultant Prepared Plans* dated June 2010.

The **CONSULTANT** will provide final right-of-way CADD files to the COUNTY for the preparation of the right-of-way Exhibit "A".

During the course of completing the final plans for construction, should changes be necessary which will affect right-of-way, these revisions will be promptly made, documented as revisions on plans, and identified to those implementing right-of-way appraisal and acquisition. The **CONSULTANT** will provide updated CADD files to the COUNTY to update the right-of-way Exhibit "A".

The **CONSULTANT** assumes five (5) right-of-way revisions.

Cost Estimate – The **CONSULTANT** shall update the Preliminary Plans cost estimate and provide with the submittal of the final right-of-way plans. The estimate shall be developed to the level of detail similar to a typical 70% complete project that complies with DEPARTMENT RDM standards for 70% plans.

5.3 Final Design and Plans

Utilizing the Preliminary Plan design and comments received on preliminary plans and during the field review, the final design will be developed.

Construction Plans – The construction plans will be a continuation of the Final Right of Way plans.

Plan sheets will show information necessary to permit construction stakeout and to indicate and delineate details necessary for construction.

The construction plans shall include pavement markings on the roadway plan sheets showing crosswalks only. The Manual on Uniform Traffic Control Devices, latest edition, and SCDOT

details will be incorporated into the plans.

The **CONSULTANT** will provide pavement marking quantities for inclusion into Final Construction Plans.

The **CONSULTANT** will provide cross sections every 50 feet.

The **CONSULTANT** will attend the Final Plans Design Field Review with the **COUNTY** to review the project design in the field.

A set of preliminary Construction plans will be submitted to the **COUNTY** for review prior to final plan delivery. The 70% Construction cost estimate will be updated by the CONSULTANT and submitted with the Preliminary Construction Plans for use by the COUNTY.

On or before the contract completion date, the **CONSULTANT** will deliver to the **COUNTY** one complete set of final Construction plans, an Engineer's Estimate, and "Project Specific" Special Provisions.

The **COUNTY** shall coordinate with SCDOT District 1 to submit the Encroachment permits. These permits are required prior to the **CONSULTANT** obtaining right-of-way acquisitions or permissions.

Project Special Provisions and Engineer's Estimate – The **CONSULTANT** will prepare all "Project Specific" Special Provisions and include them in the format compatible with the **COUNTY** Construction Administration Section. The **CONSULTANT** will work closely with **COUNTY** Personnel in the **CONSULTANT'S** development of the construction document package.

Also, utilizing recent bid data from similar projects in the area, the **CONSULTANT** will prepare an Engineer's Estimate for construction of this project. The estimate will be based on the final summary of quantities and will be used in the final bid analysis and award. The **CONSULTANT** may be required to attend a meeting with the **COUNTY** to reconcile differences between the **CONSULTANT**'s estimate and the **COUNTY**'s estimate.

The **CONSULTANT** will work closely with **COUNTY** personnel in the **CONSULTANT'S** development of the construction document package including bid documents, pre-bid meetings, and the review of bids.

For this task and all other tasks contained in this scope, the **CONSULTANT** will utilize the **DEPARTMENT** standard drawings, specifications, and design manuals that are current as of the first issuance of the task order scope by the **COUNTY** to the **CONSULTANT.**

Assumptions

1. The **CONSULTANT** will not show in the plans and created cross sections at driveways needed in order to study the re-connection of driveways to the sidewalks. The **CONSULTANT** will be responsible for securing permissions and determining the driveway limits necessary to provide access to the property during construction.
2. Submittals are as follows:
    a. 30% Plan submittal for **COUNTY** Review and Comment.
    b. 65% Plan submittal for **COUNTY** Review and Comment.
    c. Revised 65% Plan Submittal for **DEPARTMENT** Review and Comment.
    d. 70% Plan submittal for **DEPARTMENT** Review and Comment.
    e. Revised 70% Plan Submittal for **DEPARTMENT** Review and Approval.
    f. 95% Plan submittal for **COUNTY** Review and Comment.
    g. Revised 95% Plan Submittal for **DEPARTMENT** Review and Comment.
    h. 100% Plan Submittal for **DEPARTMENT** Review and Approval.
3. One full-size (22"x36") PDF at each submittal.
4. One half-size (12"x18") set of plans will be submitted for each **COUNTY** review.
5. One (1) full-size (22"x36") and half-size (12"x18") set of plans will be submitted of approved 70% and 100% plans.
6. Maintenance of Traffic Plans will not be required. Contractor will be responsible for adhering to SCDOT Standard Drawings for Traffic Control. Traffic Control and Permanent Construction signs will be included as lump sum quantities.
7. The CONSULTANT will prepare right-of-way exhibits, Exhibit "A", if necessary. The CONSULTANT will provide the CADD files.
8. Quantities to be provided will be limited to sidewalk, ADA compliant ramps, mailboxes, reset fence and concrete driveway. Other quantities will be assumed to be "lump sum" quantities for the bid.
9. The **CONSULTANT** shall not be responsible for quantity overruns or underruns.
10. The resident construction engineer for the **COUNTY** will be responsible for any adjustments during construction.

Deliverables

1. Plans as detailed above, along with the Preliminary Construction cost estimate, final Engineer's Estimate, and "Project Specific" Special Provisions.

Task 6

STORMWATER MANAGEMENT/HYDRAULIC DESIGN

The CONSULTANT will perform the Stormwater Management and Hydraulic Design for the project based on DEPARTMENT Design Guidelines. Design procedures specified by the South Carolina Department of Health and Environmental Control as well as Richland County will be incorporated as needed. Any conflicts in design criteria from the review agencies will be evaluated with the COUNTY to determine the appropriate design procedure for the project. This task includes inspection of the existing drainage structures and roadway drainage.

Storm Drainage Improvements

Storm drainage design will be required in the following areas in order to meet the DEPARTMENT, SCDHEC and Richland County regulations:

- **Lincoln Shire North Drive-** It is assumed that new drainage systems will be required and that outfalls exist within the project area with capacity to accept flow from the new drainage systems.
- **Seagull Lane-** It is assumed that new drainage systems will be required and that outfalls exist within the project area with capacity to accept flow from the new drainage systems.
- **Roberson Street-** It is assumed that new drainage systems will be required and that outfalls exist within the project area with capacity to accept flow from the new drainage systems.
- **Dakota Street-** It is assumed that new drainage systems will be required and that outfalls exist within the project area with capacity to accept flow from the new drainage systems.

The roadway and sidewalk drainage design for the improvements will be completed utilizing design procedures that comply with stormwater management and sediment and erosion control regulations and the NPDES general permit. All drainage calculations will be performed with methods suggested in the **DEPARTMENT**'s *Requirements for Hydraulic Design Studies* dated May 26, 2009 and be made available to the **COUNTY** for approval.

The **CONSULTANT** will perform a field review of the projects and a visual inspection of the existing drainage systems within the projects areas. The inspections performed will not include any material testing or structural analysis. The **CONSULTANT** will document any irregularities in the existing drainage system and provide the data to the **COUNTY**. If needed, the **CONSULTANT** will meet with the **COUNTY** in the field to review and discuss the condition of the existing drainage system prior to reuse in the proposed design. If additional testing or inspections (video pipe inspection) is recommended, the **CONSULTANT** will prepare the recommendation and submit to the **COUNTY** for coordination with the **DEPARTMENT**.

Drainage design for the projects is dictated by the project horizontal and vertical geometry.

The design will be terminated at available existing outfall locations or at new locations that will be constructed as a part of the project.

Drainage areas will be defined from the existing topography as determined from available mapping and field survey.

Design year storms will be established in conjunction with **DEPARTMEN**T guidelines for on-site and off-site runoff. For the design year storm, rainfall intensities appropriate for the project area will be determined and the runoff will be calculated for each drainage area. For each contributing sub-area, a structure will be identified to accept the runoff (inlet, cross-pipe, ditch, etc.). Based on accumulation of runoff, appropriate pipe sizes will be chosen to convey the runoff to the outfall.

The hydrologic analysis of each watershed will be performed with the appropriate method for the region.

Pre- and post-construction peak discharges will be computed at each outfall. Outfalls will be

evaluated in accordance with **DEPARTMENT** and NPDES regulations.

Energy dissipaters may also be utilized based on HEC-14 procedures. Outfall channel protective measures will be based on design methods in HEC-14 and/or HEC-11.

New roadway cross-line pipes are not anticipated to be needed for this project.

Closed storm sewer systems will be analyzed with GEOPAK Drainage or Bentley's StormCAD. Roadway inlets will be located based on FHWA's Urban Drainage Design Manual HEC-22.

Any roadway ditches will be sized with Manning's equation, and HEC 15 methodologies.

The storm sewer design for the projects will be performed to minimize impacts to existing utilities if possible. Existing utility data will be obtained as part of Field Surveys (Task 4). The **CONSULTANT** will adjust pipe locations and inverts if possible. If conflicts cannot be avoided and the utility cannot be relocated, the **CONSULTANT** will evaluate the use of utility conflict boxes or other devices to minimize the need for utility relocations. The **CONSULTANT** and the **COUNTY** acknowledge not all utility relocations can be avoided.

The **CONSULTANT** will evaluate the potential impacts from the project on water quality. If dictated by project permitting, the **CONSULTANT** will utilize water quality best management practices to provide treatment to pavement runoff prior to entering environmentally sensitive areas.

The location of the storm drainage systems will be shown on the plan sheets or replicated drainage sheets. Additional plan information will include pipe and drainage structure size, location, type and elevation.

A Stormwater Management Design Report will be prepared for the project based on DEPARTMENT guidelines and will include a project description, drainage approach and methodology, design calculations, soils descriptions, and location maps.

Assumptions

1. SCDHEC's NOI form will be used for this project.
2. No FEMA impacts.
3. No detention basins will be required.
4. No FEMA modeling to ensure no-rise.
5. No geotechnical investigations will be required for the installation of cross line pipes should hydraulic design require their inclusion.

Deliverables

1. Draft Stormwater Management Report to be submitted in electronic format with 70% plan submittal.
2. One (1) bard copy of the Signed and Sealed Stormwater Management Report

Task 7

SEDIMENT AND EROSION CONTROL/NPDES PERMITTING

Sediment and Erosion Control

The project will include the development of a Sediment and Erosion Control Plan as well as the preparation of Supporting Documentation for the Land Disturbance Permit Application.

The sediment and erosion control plan will include the temporary placement of inlet structure filters and silt fence as indicated by general notes.

The plans will reference the SCDOT's Standard Drawings for Roadway Construction to assist the contractor with the construction of these items. The plans will also identify the need to maintain, clean, and relocate these erosion control measures as the project progresses and address the removal of temporary erosion control devices following construction. The SCDOT standard drawings, instructional bulletins, and standard supplemental specifications will be considered part of the plans and considered to provide sufficient detail for construction.

The placement of erosion control measures outside proposed rights-of-way through the use of temporary easements will be investigated as a possibility if they will not fit within proposed right-of-way.

Quantities for erosion and sediment control items will be calculated based on SCDOT typical drawings. Any required erosion control computations will be completed with approved methods and submitted to the **COUNTY**.

NPDES Permitting

The project will include individual Land Disturbance Permit Applications (SCDHEC Form D-2628, *Notification Form for Sites Disturbing Less Than 1-Acre (Not Part of a Larger Common Plan, Non-Coastal County)*, along with necessary documentation as specified on the form, for each sidewalk area (3 total).

The **CONSULTANT** will develop the NPDES permit application as well as the submittal of any required supporting documentation and submit to the **COUNTY**.

Deliverables

Four (4) Land Disturbance Applications along with supporting materials.

Task 8

STRUCTURES DESIGN AND PLANS

It is assumed that there will be no retaining walls or other structures required for the design of this project. Any structure designs determined to be necessary for the project will be added through a contract modification.

Task 9

UTILITY COORDINATION ASSISTANCE

9.1 Utility Coordination

The CONSULTANT shall coordinate the project development with the COUNTY's Utility Coordinator. Coordination shall involve inviting the COUNTY's Utility Coordinator to necessary project meetings, providing updates to schedule, and providing project files as requested by the COUNTY's Utility Coordinator. The CONSULTANT will provide electronic copies and pdf's of the Survey and Subsurface Utility Engineering as well as a listing of the utilities that exist within the project limits as soon as the information becomes available so that early coordination with utility companies can begin. The CONSULTANT'S Utility Coordinator will handle coordination of the project development with utility companies. The CONSULTANT will anticipate approximately (4) meetings for Utility Coordination. The CONSULTANT shall prepare a Utility Report that includes a listing of all utility companies located within the project limits and a recommendation as to the extent of each company's prior rights. The design of any utility relocation plans for companies is not included in this scope and will be scoped when the Utility Report is available.

Task 10

CONSTRUCTION SERVICES

The proposed construction phase services shown below are assumed at this time. All necessary construction phase services will be evaluated and negotiated upon completion of the design services tasks and prior to the proposed construction contract. A contract modification will be negotiated for these services.

10.1 Pre-Construction/Partnering Conference

The **CONSULTANT** will attend the Pre-Construction/Partnering Conference and respond to questions by the CONTRACTOR pertinent to the design and proposed construction methodology. Assume there will be one (1) Pre-Construction/Partnering Conference.

10.2 Construction Phase Project Meetings

The **CONSULTANT** will attend meetings with the COUNTY to discuss construction issues as needed during the construction of this project. Assume attendance at two (2) meetings.

10.3 Construction Phase Assistance

The **CONSULTANT** will assist **COUNTY** personnel during the construction phase when problems or questions arise relating to the design and proposed construction methodology. Assume 4 hours per month for construction duration of 4 months.

10.4 Construction Revisions

The **CONSULTANT** will make necessary revisions to construction plans that arise during the construction phase of the project. Assume two (2) construction revisions.

10.5 As-Built Plans

The **CONSULTANT** will not be responsible for the development of As-Built Plans for this project.

Services of the COUNTY

The **COUNTY** agrees to provide to the **CONSULTANT**, and at no cost to the **CONSULTANT**, the following upon request:

- Access to and use of all reports, data and information in possession of the **COUNTY** which may prove pertinent to the work set forth herein.
- Existing Policies and Procedures of the **COUNTY** with reference to geometrics, standards, specifications and methods pertaining to all phases of the **CONSULTANT's** work.
- Eminent Domain advertisement notice.
- Payment of fees required by state and federal review/approval agencies.
- Existing roadway and drainage plans
- As-built roadway plans.

Services Not Included

The CONSULTANT will not be responsible for the following services or deliverables and others not necessarily mentioned in this scope of work.

1. Lighting and electrical design

2. Construction engineering and inspection (CE&I)
3. Public Involvement (other than those activities detailed in scope of work)
4. Eminent Domain advertisement notice
5. Payment of fees required by state and federal review/approval agencies (without reimbursement for said necessary fees)
6. As-built plans
7. Utility coordination (other than those activities detailed in scope of work)

Project Deliverables

The **CONSULTANT** will submit the deliverable items shown below if applicable within the time allotted for each phase of work. Delivery may not be in the order shown.

- Monthly status report and invoice submittals
- Meeting agendas and minutes
- Attendance at one (1) public meeting
- Preliminary plans
- Preliminary construction plans
- Contract documents.
- Final construction plans, project specific specifications, and Engineer's construction cost estimate
- Bid documents and preparation (other than those documents specifically mentioned in this scope of work) including meetings.
- NPDES permit application/Notice of Intent
- Survey CADD file
- Design CADD files, as requested
- Prepare final approval and acceptance letter

Schedule

Below is a summary of significant milestones and anticipated submittal timeframes:

Survey	4	months from NTP
Preliminary Plans	5.5	months from NTP
assume COUNTY review (2 weeks)	6	months from NTP
Preliminary Right-of-Way Plans	7	months from NTP
assume COUNTY review (2 weeks)	7.5	months from NTP
assume CONSULTANT revisions (2 weeks)	8	months from NTP
assume DEPARTMENT review (1 month)	9	months from NTP

Final Right-of-Way Plans	10	months from NTP
assume DEPARTMENT review (1 month)	11	months from NTP
assume CONSULTANT revisions (2 weeks)	11.5	months from NTP
Approved Final Right-of-Way Plans	12.5	months from NTP
Preliminary Construction Plans	13.5	months from NTP
assume COUNTY review (2 weeks)	14	months from NTP
assume CONSULTANT revisions (2 weeks)	14.5	months from NTP
assume DEPARTMENT review (1 month)	15.5	months from NTP
Final Construction Plans	16.5	months from NTP
assume DEPARTMENT review (1 month)	17.5	months from NTP
Approved Final Construction Plans	18.5	months from NTP

The submittal dates include time for COUNTY/DEPARTMENT review as noted. Per the Intergovernmental Agreement between COUNTY and the DEPARTMENT, the DEPARTMENT has twenty-five (25) business days for their review.

Crane Creek Phase 3						
Task	Total	Cox & Dinkins	DESA	CECS	Pruitt	
1 - Project Management	$47,500.00	$28,500.00	$19,000.00			
2 - Environmental Services/ Permitting	$39,174.88	$2,400.00		$36,774.88		
3 - Public Meeting	$14,190.00	$12,600.00	$1,590.00			
4 - Survey	$98,660.00	$98,660.00				
5- Sidewalk/ Streetscaping Design	$202,700.00	$116,200.00	$86,500.00			
6- Stormwater Management/Hydraulic Design	$58,050.00	$36,000.00	$22,050.00			
7- Sediment and Erosion Control/ NPDES Permit	$34,950.00	$18,000.00	$16,950.00			
8- Structures Design and Plans	$0.00					
9- Utility Coordination	$34,050.00	$4,800.00	$14,100.00		$15,150.00	
10- Construction Services	$23,550.00	$16,600.00	$6,950.00			
Total	$552,824.88	$333,760.00	$167,140.00	$36,774.88	$15,150.00	$0.00
Total %	100.0%	60.4%	30.2%	6.7%	2.7%	0.0%

DBE Certified		X	X	X	
SLBE Certified		X		X	

DBE Utilization	39.6%
SLBE Utilization	33.0%

Contract Amount

Lump Sum	$551,710.00
Approved Direct Expenses	$1,114.88
Total	$552,824.88
Contingency	*$55,171.00*

Direct Expenses

Printing and Photcopies	$0.00
Per Diem	$88.00
Mileage	$26.88
Agency fees for approvals	$1,000.00
Total	$1,114.88

R/W Acquistion per parcel fee. 100 parcel total	Neg. Fee	Appraisal	App. Review	Title Opinion	Exhibits	Total
Permission	2250			375		225000
Acquistion	3500	2500 max	375	375	200	695000

RICHLAND COUNTY ADMINISTRATION
2020 Hampton Street, Suite 4069
Columbia, SC 29204
803-576-2050

Agenda Briefing

Prepared by: Michael Niermeier, Director
Department: Transportation
Date Prepared: September 14, 2020 **Meeting Date:** September 22, 2020

Legal Review	Elizabeth McLean via email	**Date:**	September 16, 2020
Budget Review	James Hayes via email	**Date:**	September 15, 2020
Finance Review	Stacey Hamm via email	**Date:**	September 15, 2020
Approved for consideration:	Assistant County Administrator	John M. Thompson, Ph.D., MBA, CPM	
Committee Subject:	Polo Road Widening Project Design Service Order 11		

Recommended Action:

Staff recommends approval of Service Order 11 to Cox & Dinkins for the design of the Polo Rd. Widening Project.

Motion Requested:

1. Move to approve staff's recommendation; or,
2. Move to deny staff's recommendation.

Request for Council Reconsideration: ☑Yes

Fiscal Impact:

The fee for this service order is $1,203,335.02 with a contingency of $93,523.00 for a total of $1,296,858.02. The available FY21 funding for professional services for this project is $1,729,139.90.

Motion of Origin:

There is no associated Council motion of origin.

Council Member	
Meeting	
Date	

Discussion:

The original scope of this project was to widen Polo Rd. from a two-lane to a three-lane all the way from Two Notch Rd. to Mallet Hill Dr. along with the installation of bike and pedestrian accommodations. This project was de-scoped to only include intersection improvements along Polo Rd. and pedestrian improvements from Two Notch Rd. to Mallet Hill Dr. This will connect to the current Polo Rd. SUP project presently under construction. The descoping of this project was approved by Council on May 5, 2020.

This service order covers the 100% design, permitting, and construction phase services for the Polo Rd. Widening Project, which includes improvements at the intersections of Running Fox Rd., Miles Rd., Hope Rd., and Mallet Hill Rd. The intersection at Old Still Rd. will also be evaluated to determine if improvements are warranted there as well. This project also includes bike and pedestrian accommodations between Two Notch Rd. and Mallet Hill Dr.

Attachments:

1. Service Order
2. Scope of Work
3. Fee Proposal

Service Order
For
On Call Engineering Services Agreement

SERVICE ORDER NO. C&D #11

Date: September 14, 2020

This Service Order No. C&D #11 is issued by Richland County, South Carolina (the "County"), to Cox and Dinkins, Inc. (the "Consultant") pursuant to that Agreement dated February 11, 2015 between the County and the Consultant called "On Call Engineering Services Agreement Related to the Richland County, South Carolina Sales Tax Public Transportation Improvement Plan" (the "Agreement").

This Service Order, together with the Agreement, form a Service Agreement. A Service Agreement represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations, or agreements, either written or oral. A Service Agreement may be amended or modified only by a Change Order or Change Directive as provided for in the Agreement.

I. Scope of Services.

A. Unless otherwise provided in an exhibit to this Service Order, this Service Order and the Service Agreement are based on the information set forth below:

See Attachment A – Scope of Services

B. Unless otherwise provided in an exhibit to this Service Order, the Consultant's Services to be provided pursuant to this Service Order are:

See Attachment A – Scope of Services

C. Unless otherwise provided in an exhibit to this Service Order, the County's anticipated dates for commencement of the Services and Completion of the Services are set forth below:

1. Commencement Date: October 19, 2020
2. Completion Date: *See Attachment A – Scope of Services - Schedule*

D. Key personnel assigned by Consultant to this Service Scope of Work:

1. Gene Dinkins, PE, PLS *(Principal-in-Charge)*
2. McTilden "Mac" Atkins, III, PE *(Project Manager)*

II. Insurance

The Consultant shall maintain insurance as set forth in the Agreement. If the Consultant is required to maintain insurance exceeding the requirements set forth in the Agreement, those additional requirements are as follows:

N/A

III. Safety and Warranty

It is understood that the Consultant does not have a Safety Supervisor or anyone in a similar position on staff and is not responsible in any way for job site safety or security. However to the extent that the Consultant does have employees or representatives on site, these persons will respect the safety of the public.

It is understood that the Consultant cannot give a warranty on professional services. The Consultant provides professional services (not goods) and shall only be held to a negligence – based standard of care that is guided by what a reasonable design professional would do under similar conditions in the same location and at the same time.

IV. Owner's Responsibilities.

In addition to those responsibilities the County may have as stated in the Agreement, the County in connection with this Service Order only shall:

N/A

V. Consultant's Compensation.

A. The Consultant shall be compensated for Services provided under this Service Order as follows:

Lump Sum	*$*	*935,230.00*
Approved Direct Expenses	*$*	*268,105.02*
	$	*1,203,335.02*
Contingency[1] – Not to Exceed	*$*	*93,523.00*

[1] Requires approval from Richland County to authorize contingency.

B. Additional Services. Unless otherwise provided in an exhibit to this Service Order, any Additional Services by the Consultant shall be paid as Additional Services as provided in the Agreement.

VI. Additional Exhibits.

The following exhibits and/or attachments are incorporated herein by reference thereto:

See Attachment A – Scope of Services

VII. Execution of Service Agreement

The Execution of this Service Order by the County below constitutes a Service Order to the Consultant. The execution of this Service Order by the Consultant creates the Service Agreement.

NOW, THEREFORE, in consideration of the foregoing, the sufficiency of which is hereby acknowledged by the parties, this Service Agreement is entered into Under Seal as of the Effective Date of _____, 2020.

WITNESS:

_____

RICHLAND COUNTY, SOUTH CAROLINA

By:_____(L.S.)

Its:_____

Date: _____

CONSULTANT:

COX AND DINKINS , INC.

WITNESS:

_____

By:_____(L.S.)

Its:_____

Date: _____

ATTACHMENT A: SCOPE OF SERVICES

ATTACHMENT "A"
SCOPE OF SERVICES AND SCHEDULE
POLO ROAD (S-2214) WIDENING

Introduction

Cox & Dinkins, Inc. (CONSULTANT) has been authorized by Richland County (COUNTY) to provide engineering services for the widening of Polo Road (S-2214) in Richland County, South Carolina. Polo Road is considered an Urban Major Collector by the South Carolina Department of Transportation (DEPARTMENT). The DEPARTMENT holds all public rights-of-way adjacent to the project corridor and assumes all maintenance responsibilities for those said rights-of-way.

The project will consist of widening the existing roadway to three lanes (two lanes with center median) at three intersections between Two Notch Road (US 1) and Mallet Hill Road (local).. The project is proposed to include bicycle and pedestrian accommodations.

Project Location - The project is located in Richland County, northeast of the City of Columbia. The project will begin approximately 300' southeast of the intersection of Polo Road and Two Notch Road. It will continue to the South until it terminates at the existing traffic signal at Mallet Hill Road. Widening to three lanes will occur at the intersection with Hope Rd., Running Fox Rd., Miles Rd. and the southbound portion of Mallet Hill. Sesquicentennial State Park is directly adjacent to the existing rights-of-way, southbound, between Sesqui Trail and Mallet Hill Road. The intersection with Old Still Rd. will be evaluated to determine if intersection improvements are needed at this location.

Existing Conditions – Polo Road is an existing 2-lane, earthen shoulder and ditch section roadway for the majority of the alignment that runs from Two Notch Road to Mallet Hill Road. Approaching the Mallet Hill Road intersection (southbound), Polo Road transitions to a three-lane section to provide a dedicated, left turn lane. Polo Road continues as a 2-lane roadway on the opposite side of this intersection.

Polo Road crosses Jackson Creek and associated floodway via a 36-inch, reinforced concrete pipe between Sand Spur Road and Running Fox Road.

Polo Road crosses Jackson Creek Tributary No. 5 and associated floodway via a 48-inch, reinforced concrete pipe approximately 200 feet south of Sesqui Trail.

Proposed Project Scope (Roadway Widening) – Preliminary plans are to be modified to determine final alignment. Upon approval of the updated alignment, Right-of-Way through Final Construction plans will be developed to reflect the implementation of the widening of Polo Road to three lanes with the following;

- 35 mph design speed;
- 12-foot wide travel lanes;

- The addition of a two-way left turn lane will occur at the intersection with Hope Rd., Running Fox Rd., Miles Rd. and the southbound portion of Mallet Hill (assumed 15 foot wide center median);
- The addition of a two-way left turn lane will occur at the intersection with Old Still Rd. if deemed necessary.
- The addition of bicycle and pedestrian accommodations along the length of the roadway;
- 5' concrete sidewalk with 3' offset from back of curb and gutter section along both sides of the roadway.
- Retaining walls to reduce environmental/right-of-way impacts, if necessary;
- Hydraulic evaluations of existing FEMA crossings of Jackson Creek & Jackson Creek Tributary to determine appropriate drainage conveyance;
- Review vertical/horizontal and intersection alignments and design, and revise, if necessary, to meet design criteria; and,
- Traffic signal upgrades and / or modifications to existing signals.

Summary of Anticipated Services - An outline of the services anticipated for this project is shown below.

Task 1 - Project Management
Task 2 - Environmental Services / Permitting
Task 3 - Field Surveys
Task 4 - Roadway Design
Task 5 - Pavement Marking and Signing Design
Task 6 - Traffic Signal Design
Task 7 - Transportation Management Plan
Task 8 - Stormwater Management / Hydraulic Design
Task 9 - Sediment & Erosion Control / NPDES Permitting
Task 10 - Geotechnical Investigations and Engineering Services
Task 11 - Roadway Structures Design and Plans
Task 12 - Subsurface Utilities Engineering (SUE)
Task 13 - Utility Coordination Assistance
Task 14 - Construction Phase Services (*per future Contract Modification*)

Quality Control

The CONSULTANT shall implement all necessary quality control measures to produce plans and reports that conform to COUNTY guidelines and standards. Prior to submittal to the COUNTY, all plans and reports shall be thoroughly reviewed for completeness, accuracy, correctness, and consistency. Subconsultants for this project will be required to implement and maintain a stringent quality control program as well. The COUNTY reserves the right to request

QA/QC documents (red-lines, checklists, etc) from the CONSULTANT with project deliverables.

Task 1

PROJECT MANAGEMENT

The CONSULTANT shall institute a program for conformance with COUNTY requirements for monitoring and controlling project engineering budget, schedule and invoicing procedures. The CONSULTANT's subconsultants shall be included in this program. Proposed dates of submittals, completion of tasks, and final completion of pre-construction services as noted in this agreement will be negotiated with the COUNTY. Included in management of the project will be:

- Project meetings between the COUNTY, DEPARTMENT and CONSULTANT for clarification of scope, discussion of concepts, review of submittals, etc. at the discretion of the COUNTY.

- The CONSULTANT will prepare meeting agenda and meeting materials as well as record the minutes of each meeting in which it participates and distribute to the appropriate COUNTY personnel.

- Prepare monthly invoices, status reports, and schedule updates. Assume an 18 month design schedule which will impact the duration of preparing invoices, status reports, and schedule updates. Assume a 24 month construction schedule which will impact the duration of invoicing for Construction Phase Services.The CONSULTANT will provide coordination with its SUB-CONSULTANTS during the execution of their work. Assume an 18 month design schedule.

- The CONSULTANT will include the COUNTY in any discussions concerning the project prior to submittal of deliverables if that process has the advantage of expediting the completion of any task of the project.

The CONSULTANT will attend meetings with the COUNTY and stakeholders from various organizations affected by this project in order to incorporate the needs and desires of these organizations into the decision-making process. It is assumed that the CONSULTANT will attend 26 project meetings (2 each month during the first 6 months, 1 per month the last 12 months) and two (2) additional review coordination meetings with the DEPARTMENT, COUNTY and others, as applicable. The CONSULTANT will be in attendance at these meetings and will prepare all necessary display materials, meeting agendas and minutes.

Task 2

ENVIRONMENTAL SERVICES/PERMITTING

The COUNTY will be responsible for the required coordination with Local, State and Federal agencies regarding environmental services to ensure the program is in compliance with appropriate environmental regulations to obtain a Wetlands Permit and Land Disturbance Permit. The CONSULTANT will provide specific documentation, including but not limited to project information, applications and drawings as necessary for acquisition of the required permits.

Permits – The CONSULTANT will coordinate with the COUNTY and may attend coordination meetings with state and federal resource agencies and document all discussions and understandings that are reached.

The CONSULTANT will perform Jurisdictional Delineations and prepare the Jurisdictional Determination (JD) Request Package. The CONSULTANT will provide the COUNTY a copy of the JD package and the wetland boundaries on a surveyed map for use in preparing the permit documents. A digital wetland boundary file will also be provided.

If applicable, the CONSULTANT shall prepare the Joint Federal and State Permit Application Package in the format specified by the Charleston District Corps of Engineers. The CONSULTANT shall complete all forms, documentation, and drawings as directed by the COUNTY that are part of the permit application package. The COUNTY or DEPARTMENT will execute the application form as the applicant, and may designate the CONSULTANT as the agent in the processing of the permit application, if so desired. It is assumed that any permits would be authorized under the SCDOT General Permit and will be prepared according to current DEPARTMENT standards which include the following:

- Joint Federal and State Application Form
- Permit Drawings: Drawings depicting the proposed impacts to waters of the U.S. on the subject property. The CONSULTANT shall include the surveyed or measured boundaries of jurisdictional waters superimposed on the actual development/grading plans to establish the proposed jurisdictional impacts.
- Pre-construction Notification Form for SCDOT GP and Supplemental Information, which includes, but is not limited to the following:
    - Project Information
    - Proposed impacts to WOUS
    - Alternative Analysis
    - Avoidance & Minimization
    - Hydrology & Hydraulics
    - Section 106 of the National Historic Preservation Act (provided by the COUNTY)
    - Threatened and Endangered Species short form report for No Effects finding.

Mitigation Plan: In accordance with regulatory requirements, the CONSULTANT will develop a conceptual mitigation plan and submit it as part of the application package. It is assumed that any mitigation needed for this project will be acquired from the proposed COUNTY Mitigation Site.

The CONSULTANT shall submit the completed permit application package to the COUNTY for final processing and negotiation with the agencies. The COUNTY will coordinate directly with the DEPARTMENT, USACE, SCDHEC and other federal, state and local regulatory personnel throughout the course of the permit application process, and coordinate the submission of any additional information as requested by the respective agencies in order to facilitate permit review and approval. The CONSULTANT may be asked to assist in the coordination effort, and will not coordinate with the agencies unless directed by the COUNTY.

Technical Reports

Hazardous Waste and Underground Storage Tanks – In assessing the environmental liabilities associated with the proposed new rights of way, the COUNTY may conduct appropriate / applicable elements of a Phase I Environmental Site Assessment in accordance with procedures established by ASTM Designation E 1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". This approach complies with the Standards and Practices for All Appropriate Inquiries (AAI), Final Rule published in 40 CFR Part 312. A Phase 2 Site investigation may be conducted by the COUNTY for those sites recommended for additional study as stated in the Phase 1 ESA. The results / deliverable provided from a Phase 1 ESA and any potential Phase 2 Site Investigations will be provided to the CONSULTANT.

Public Coordination/Public Meeting – Two (2) public meetings are proposed for this project. The first meeting is proposed to be conducted following development of the preferred alignment. The second meeting will be held only if necessary to present any final changes to the design.

The CONSULTANT will develop and provide to the COUNTY a list of property owners and stakeholders such as businesses, schools, shopping centers and home owners associations.

The public meeting will tentatively be scheduled for 5:00 pm to 7:00 pm on a Tuesday or Thursday at a venue along, or near, the project corridor. The CONSULTANT, with input from the COUNTY, will be responsible for procuring the venue and determination of date and time. The CONSULTANT will be responsible for the preparation of public notice letters and draft media release necessary for promoting the meeting. The COUNTY will provide sample documentation from a previous public meeting. Following COUNTY approval of the public notice letter, the CONSULTANT will mail letters to the list of property owners and stakeholders.

The CONSULTANT, with input from the COUNTY, shall prepare necessary public meeting materials, (deliverables would include project design displays, project overview displays, project typical sections and right of way data tables, as applicable). The CONSULTANT will provide necessary boards and display easels. The CONSULTANT shall also be responsible for the development and printing of handouts, comment cards and sign-in sheets for the public meeting. The COUNTY will provide a base template (with language utilized for previous public meetings) for the handout, comment card and sign-in sheets. The CONSULTANT shall provide

draft copies of all materials to be used in the public meeting to the COUNTY for review a minimum of 15 business days prior to printing. The CONSULTANT will also provide the COUNTY with PDF versions of all final deliverables, as stated above, for the public information meeting one week prior to the meeting for posting on the COUNTY website.

The public meeting is assumed to be held as an open-house style meeting. The COUNTY may conduct a brief formal presentation at some time during the public information meeting. The CONSULTANT shall attend the scheduled public meeting and have a minimum of four (4) personnel knowledgeable of the project and its impacts in attendance. The CONSULTANT's role at the meeting is to discuss the project alternatives, proposed design and impacts with the public in attendance.

The COUNTY may secure security guards from local law enforcement agencies or private security firms for all public meetings. The COUNTY will also be responsible for fabricating and erecting signs to be placed on the projects as well as any directional signage needed at the public meeting venue.

The CONSULTANT shall prepare a summary of the public meeting comments within seven (7) business days from the close of the public comment period and receipt of the comments from the COUNTY. The COUNTY will provide a sample from a previous public meeting on a similar project. The COUNTY will be responsible for development of public comment responses and individual response letters, at their discretion. The CONSULTANT may be asked to assist with the development of appropriate responses, as necessary.

Assumptions:

- The CONSULTANT will conduct property owner research and develop property owner and stakeholder contact/mailing list in Excel format.
- The CONSULTANT will submit a draft media release to the COUNTY one month prior to the public meeting.
- The CONSULTANT will provide printed and PDF copies of all displays (up to 12 – 36-in x 48-in). Draft copies of the displays shall be submitted to the COUNTY in full size hardcopies 15 days prior to the Public Meeting. The CONSULTANT assumes two (2) rounds of revisions on public meeting materials and displays.
- The COUNTY will prepare and print meeting handouts and comment sheets.
- The CONSULTANT assumes up to 100 comments will be received and included in the public meeting summary.
- Meeting Preparation and Debrief meetings will be held at Richland County Transportation Offices in Columbia, SC.
- Participation of four (4) CONSULTANT team members at two (2) Public Meetings

Deliverables

1. Property Owner and Stakeholder list
2. Draft Media Release
3. Attendance at two (2) Public Meeting and preparation of Public Meeting materials (as stated in scope)

4. Public Meeting Summary
5. SCDOT USACE General Permit Application Package, including supplemental documentation.

Task 3

FIELD SURVEY

Aerial Photography and LIDAR Survey and Mapping – The CONSULTANT will use the Aerial Photography and Aerial LIDAR Survey and Mapping obtained in the initial contract for use during the preparation of the Roadway Plans. Mapping was developed to the contour accuracy of 1 foot (one foot contour interval). The aerial mapping was prepared for use in plans developed to a horizontal scale of 1" = 20'.

Field annotation of aerial topography, supplementary topographic surveys, and verification of mapping accuracy will be performed by the CONSULTANT.

Control Surveys – The CONSULTANT will establish the Primary, Main and Secondary Survey Control Points to be used during the supplemental topographic surveys and the construction of this project. All surveys will be in accordance with SCDOT's *Pre-Construction Survey Manual* dated October 2012. The CONSULTANT will notify the COUNTY of any required temporary traffic control measures (e.g. shoulder/lane closures, etc.) within seven (7) days before such closure due to survey activities.

Control survey and information provided on plans shall be consistent with SCDOT Preconstruction Design Memorandum 08 (PCDM-08).

Supplemental Design Surveys – Additional field surveys will be performed by the CONSULTANT as necessary during the design phases of the project. All surveys conducted should be adequate for the design, permitting and construction of the project.

Supplemental field surveys, as necessary, will be conducted by the CONSULTANT to obtain all topographic and planimetric data within the project corridor for the design and permitting approval of the project (assume approximately 80 hours for a two-man survey crew)

Field surveys will be performed by the CONSULTANT to establish existing rights-of-way and to locate frontal property boundary monumentation (along each side of the road) for developing property maps per the DEPARTMENT format.

Property-owner data will be obtained from county records (plat and deed research) for use in the property surveys and to incorporate property ownership data into the Right-of-Way Plans. The

property monumentation and property-owner data will be used to develop a closed out property drawing.

Level runs between existing primary vertical control points will be performed to establish additional benchmarks to be referenced on the contract drawings.

Periodic cross-sections of the existing pavement and ground surface will be performed for aerial mapping verification. Periodic sections should be performed at approximately 1,200 foot intervals (maximum) along the proposed project route. Assume ten (10) cross sections to be performed. The CONSULTANT should bring to the attention of the COUNTY in the instance any discrepancies found between field surveyed cross-sections (pavements) and those as shown in the aerial survey provided by LIDAR (previously conducted by others).

Survey data will be shown on Reference Data Sheets in the '5 series sheets' of the plans due to lack of room on the 1"=20' scale plan sheets.

The CONSULTANT will locate all drainage, stormwater, sanitary sewer structures and above ground utility structures within 100 ft. of the proposed roadway alignments. For drainage, stormwater and sanitary sewer structures, the pipe size, pipe type, structure type and invert / rim elevations shall be obtained. The CONSULTANT will locate and survey the next connecting structure (if outside the 100 ft. area) in order to determine grades / depths of existing facilities.

The CONSULTANT will horizontally and vertically locate all potential outfall drainage ditches and streams. At these outfalls, cross sections will be obtained 400 feet upstream and downstream at 50-foot intervals, or as necessary to define the channel alignment, from the proposed roadway alignment. All cross sections will be extended from bank to bank of the existing channel plus 10 feet on either side.

The CONSULTANT will obtain field surveyed cross sections for use in the development of the hydraulic models necessary to study the FEMA hydraulic crossing on Jackson Creek & Jackson Creek Tributary – survey of FEMA cross sections should match the scope of outfall drainage ditch surveys as stated above, including any additional topographic survey that may be necessary, specific to channel alignment and proximity to adjacent pavements, etc.

The CONSULTANT shall update the existing project DTM / topo files (prepared by others and provided to the CONSULTANT) with all supplemental field survey data as shown above.

The CONSULTANT will stake and obtain boring elevations for all geotechnical borings performed on the project by the CONSULTANT. The CONSULTANT should assume (34) borings to be surveyed for this project.

The CONSULTANT will stake the proposed and present rights-of-way for parcels to be affected, to assume 50 tracts, upon direction. Right-of-way staking will consist of placing 36-inch stakes (or paint in paved areas) at all proposed right-of-way breaks, sight triangles and spaced at 100-foot intervals in tangents and 50-foot intervals in curves. These stakes shall be placed after Final Right-of-Way Plans have been developed and only after the Project Manager contacts the CONSULTANT when a property owner requests the right-of-way to be staked.

All right-of-way staking services will be separate from the lump sum amount for Task 3 and will be invoiced on a cost plus, fixed not to exceed amount, only when authorized by the COUNTY. The CONSULTANT should assume multiple trips as the staking may involve one or several parcels.

The CONSULTANT will notify the COUNTY's designated Project Manager prior to performing any work on site. The CONSULTANT will not be responsible for obtaining permissions from property owners for surveys outside of the existing Right-of-Way.

Task 4

ROADWAY DESIGN

The COUNTY will provide the CONSULTANT approved Design Criteria, Project Concept Report, and Preliminary Roadway Plans as well as any review comments. No modifications to the Two Notch Road and the Polo Road intersection or the northbound approach of the Mallet Hill and Polo Road intersection are assumed as part of this scope of services.

Design Criteria – Approved Design Criteria will be provided to the CONSULTANT by the COUNTY. The design criteria was developed by the CONSULTANT for the project in accordance with the DEPARTMENT's *Roadway Design Manual 2017*, *Road Design Plan Preparation Guide-2000*, *Standard Drawings for Road Construction*, and all applicable American Association of State Highway Transportation Officials (AASHTO) publications. Any exceptions and/or deviations from established design guides and standards will be identified. The CONSULTANT will notify the COUNTY of any exceptions and/or deviations from the Design Criteria as soon as identified.

Traffic Study & Analysis – A traffic study of the roadway corridor has been performed by the CONSULTANT during the first phase of the contract. The traffic study evaluated operations, capacity (intersection & segmental) and Levels of Service throughout the corridor, turn lane queue evaluation and design storage requirements and recommendations for further traffic signal warrant analyses at specific intersections. The COUNTY will provide the study to the CONSULTANT.

Preliminary Roadway Plans – The Preliminary Roadway Plans were developed during the first phase of the contract. However, these will be modified for the current design and resubmitted for approval from COUNTY/SCDOT.

Design Verification and Refinement – Utilizing the approved design criteria, preliminary roadway plans, traffic study and recommendations, field surveys and site visits, the CONSULTANT will verify the preliminary design. Utilizing comments received to date (as shown in COUNTY / SCDOT comment review matrices) as well as any additional field information including data obtained during the SUE phase of the project, the CONSULTANT will refine the horizontal and vertical design for the project. It is assumed that the profile shown in the preliminary plans should be retained until the proposed and approved pavement design is provided to the CONSULTANT. The CONSULTANT should assume that the approved pavement design would be provided along with approved preliminary plans.

The CONSULTANT should evaluate the design illustrated in the preliminary plans and propose potential design modifications to the typical section and / or horizontal / vertical designs (within approved design criteria requirements and SCDOT & AASHTO standards) in order to provide the most cost-effective solutions for the project corridor, specific to minimization of utility impacts or rights of way impacts. The CONSULTANT shall present any proposed modifications to the COUNTY for approval prior to implementing the design change in subsequent plan submittals. The CONSULTANT shall evaluate roadway widening and any necessary alignment shifts in order to implement this design while reducing / minimizing adjacent property impacts. The CONSULTANT should assume the existing centerline will be shifted in up to 4 locations along the corridor for a final alignment.

Right-of-Way Plans

Upon approval of the refined Preliminary Roadway Plans design, Traffic Study and SCDOT comments, the CONSULTANT will prepare Final Right-of-Way Plans according to standard DEPARTMENT criteria and format. Plans will be developed to the level of detail of approximately 70% Complete Construction Plans. New right-of-way will be annotated by the station and offset methodology in accordance with standard DEPARTMENT policy and procedures. Right of Way through Construction Plans will be developed at 1"=20' scale (horizontal) with all cross-sections developed at 50 foot intervals.

Right-of-Way Plans will be developed in accordance with the DEPARTMENT's *Road Design Reference Material for Consultant Prepared Plans* dated June 2010, with the following exceptions:

- Moving Items will only be shown on the Moving Items Sheet.
- The owner's name and any needed permissions will not be shown on the Plan Sheets. The only property information shown on the plan sheets will be the Tract Number.

The CONSULTANT will incorporate information obtained during the SUE phase of the project.

The CONSULTANT will establish horizontal and vertical alignments along with cross sections as needed in order to study the re-connection of driveways to the widened / relocated roadways. This design data will be shown in the plans in order to convey the extent/impact of the re-configuration of driveways necessary to provide access to the property. Driveways that are level with the widened roadway will not have a horizontal or vertical alignment set, but will be handled by only showing their connection in the roadway cross section and plan view based on the roadway cross section.

The CONSULTANT will attend the Right-of-Way Plans Design Review with the COUNTY / SCDOT to review the project design. The CONSULTANT will prepare meeting minutes / summary of discussions from the design review. The design review will be scheduled approximately 2 weeks after submittal of the preliminary right-of-way plans to SCDOT (COUNTY to coordinate review). The design review is typically conducted utilizing desktop-level data (review of aerial imagery and plan data) to review the proposed project limits, typical sections, design and impacts. Field visits to specific locations may be scheduled.

CONSULTANT should assume 1 field visit with the COUNTY / SCDOT associated with the design review.

The CONSULTANT will be responsible for providing a preliminary list of moving and demolition items for use by the right-of-way agent. This information shall be shown on the Moving Items / Demo Items sheet and shown with the preliminary right of way plans. The CONSULTANT will provide a final list of moving and demolition items to be shown in the construction plans.

A set of preliminary Right-of-Way Plans will be submitted to the COUNTY for review and comment. Following the review of the preliminary Right-of-Way Plans, the CONSULTANT will submit final Right-of-Way Plans for review and approval. As applicable, the final Right-of-Way plans will address comments on the preliminary Right-of-Way plans. Following review, comment and approval of each of the plan submittals (preliminary R/W and final R/W), the COUNTY shall provide the plans to the DEPARTMENT for their review, comment and/or concurrence. The CONSULTANT will be responsible for updating all plan deliverables, as applicable and as necessary, per DEPARTMENT reviews. Right-of-way plans as prepared by the CONSULTANT shall be developed to the level of detail necessary of 70% plans and per typical SCDOT plan requirements. The CONSULTANT shall also be responsible for providing responses to all COUNTY and DEPARTMENT comments documented within typical comment matrices.

Electronic media receivables for Right-of-Way Plans will be provided via electronic data storage device or through electronic file transfer and will include the information outlined in the DEPARTMENT's *Road Design Reference Material For Consultant Prepared Plans* dated June 2010.

The CONSULTANT will provide final right-of-way CADD files to the COUNTY for the preparation of the right-of-way exhibits.

During the course of completing the final plans for construction, should changes be necessary which will affect right-of-way; these revisions will be promptly made, documented as revisions on plans, and identified to those implementing right-of-way appraisal and acquisition. The CONSULTANT will provide updated CADD files to the COUNTY to update the right-of-way exhibits.

The CONSULTANT should assume 30% of the tracts shown with new rights-of-way on the final right-of-way plans to require right-of-way revisions. The CONSULTANT shall submit plan changes due to right-of-way revisions per the following schedule (necessary sheets only);

- One (1) full-size
- Eight (8) half-size

The CONSULTANT will develop and provide to the COUNTY an updated cost estimate for the project, to be submitted with the final right-of-way plans.

Final Roadway Design and Plans

Roadway Construction Plans – The construction plans will be a continuation of Right-of-Way Plans. Original Right-of-Way Plans will be retained by the CONSULTANT after appropriate COUNTY reviews and signatures and then developed into construction plans.

Plan and profile sheets will show information necessary to permit construction stakeout and to indicate and delineate details necessary for construction.

The CONSULTANT will provide curb grades for the project as necessary for drainage design and to facilitate construction.

Construction plans shall incorporate all items presented in the Roadway Construction Plans section of the DEPARTMENT's *Road Design Reference Material For Consultant Prepared Plans* dated June 2010.

The CONSULTANT will attend the Final Roadway Plans Design Field Review with the COUNTY to review the project design in the field. The CONSULTANT will prepare meeting minutes / summary of discussions from the design field review. The final design field review will be scheduled approximately 2 weeks after submittal of the preliminary construction plans (COUNTY to coordinate field review).

A set of Preliminary Construction Plans (assumed 95% complete) will be submitted to the COUNTY for review and comment prior to final plan delivery. Following review of the preliminary construction plans, the CONSULTANT shall finalize the plans and submit the Final Construction plans (signed and sealed by a Professional Engineer licensed in the state of South Carolina). As applicable, the final construction plans will address comments on the preliminary construction plans. Following review, comment and approval of each of the plan submittals (preliminary const and final const), the COUNTY shall provide the plans to the DEPARTMENT for their review, comment and/or concurrence. The CONSULTANT will be responsible for updating all plan deliverables, as applicable and as necessary, per DEPARTMENT reviews. The CONSULTANT shall also be responsible for providing responses to all COUNTY and DEPARTMENT comments documented within typical comment matrices.

The Preliminary Construction cost estimate will be updated by the CONSULTANT and submitted with the Preliminary Construction Plans for use by the COUNTY.

On or before the contract completion date, the CONSULTANT will deliver to the COUNTY one complete set of Final Construction Plans, an Engineer's Estimate, and "Project Specific" Special Provisions. See Project Special Provisions and Engineer's Estimate for the description of the Engineer's Estimate and "Project Specific" Special Provisions.

Project Special Provisions and Engineer's Estimate – The CONSULTANT will prepare all "Project Specific" Special Provisions and include them in the format compatible with the DEPARTMENT Construction Administration Section. The CONSULTANT will work closely with COUNTY personnel in the CONSULTANT'S development of the construction document package.

Also, utilizing recent bid data from similar projects in the area, the CONSULTANT will prepare an Engineer's Estimate for construction of this project. The estimates will be based on the final summary of quantities and will be used in the final bid analysis and award.

The CONSULTANT will provide one full size (22"x36") and two half size sets at each review stage.

For this task and all other tasks contained in this scope, the CONSULTANT will utilize the DEPARTMENT standard drawings, specifications, and design manuals that are current as of the first issuance of the task order scope by the COUNTY to the CONSULTANT.

Task 5

PAVEMENT MARKING AND SIGNING

Final pavement marking/signing plans will be prepared at a scale of 1"=50' unless otherwise agreed upon. The plans will consist of an itemized listing of estimated quantities; typicals for installation (DEPARTMENT typicals may be used where applicable), details showing lane lines, edge lines, stop bars, symbol and word messages and other appropriate markings and sign designation numbers and locations. The plans will include dimensions sufficient for field layout. The *Manual on Uniform Traffic Control Devices (MUTCD): 2009 Edition* and DEPARTMENT details will be incorporated into the plans.

Task 6

TRAFFIC SIGNAL DESIGN

The CONSULTANT shall modify existing traffic signal plans to accommodate necessary signal phasing, signal head arrangement, signal timing, pedestrian signals and appurtenances. All existing traffic signal supports, span wire configuration, signal controller cabinet, and conduit shall be retained. The CONSULTANT shall prepare traffic signal plans at a scale matching the existing traffic signal plan as required for the project. Traffic signal plans shall conform to the *Manual on Uniform Traffic Control Devices (MUTCD): 2009 Edition*, and DEPARTMENT Standard Drawings, SCDOT Traffic Signal Design Guidelines: 2009 edition and SCDOT's latest Traffic Signal Memos. Pedestrian signal features such as pedestrian signal poles, pedestrian signal heads, push-buttons, signs etc. shall be included as per current SCDOT Traffic Signal Design Guidelines. The plans shall also include pedestrian signal timing parameters. The CONSULTANT shall prepare Special Provisions for Traffic Signal Installation based on current DEPARTMENT guidelines.

Traffic Signal modifications shall be prepared for the following signalized intersections:

- Polo Road (S-2214) at Two Notch Road (US-1) – signal timing optimization

- Polo Road (S-2214) at Mallet Hill (Local) – signal timing optimization

The COUNTY will provide existing signal timing and plans, as available from the DEPARTMENT.

For this scope of work, services specific to interconnection of signals is not included. Should these services ultimately be required, a contract modification will be negotiated.

Task 7

TRANSPORTATION MANAGEMENT PLAN

Work Zone Traffic Control Plans – The design and preparation of one set of Work Zone Traffic Control plans will be accomplished for the roadway project. The plans will include a description of the sequential steps to be followed in implementing the plans, and will be developed at a scale of 1"= 50', unless otherwise agreed upon. The traffic control plans will include lane closures, traffic control devices, temporary lane markings, and construction signing and sequencing notes. The plans will identify lane widths, transition taper widths, and any geometry necessary to define temporary roadway alignments. Also, the plans will address the type of surface to be used for all temporary roadways. Standard traffic control details will be incorporated into the plans for most work activities, but detailed staging plans will be required where impacts upon the normal traffic flow are significant.

Preliminary traffic control plans will be submitted in conjunction with the 95% complete roadway plans, and the final signed and sealed traffic control plans along with quantities will be submitted with the final roadway construction plans.

The Polo Road Widening project should be assumed an ***"Intermediate"*** project per the DEPARTMENT's *Rule on Work Zone Safety and Mobility.*

Transportation Operations Plan – The CONSULTANT will prepare a Transportation Operations Plan which will address the traffic operations within the work zone impact area and strategies for minimizing the impact to traffic operations. Some of the Work Zone Management Strategies for use in the Transportation Operations Plan can be found in Table 5B of the DEPARTMENT's *Rule on Work Zone Safety and Mobility.*

Public Information Plan – The CONSULTANT will develop a Public Information Plan in conjunction with the COUNTY which will contain strategies for providing information to the public and other impacted entities. Some Public Information strategies which may be used in the development of the Public Information Plan can be found in Table 5C of the DEPARTMENT's *Rule on Work Zone Safety and Mobility*.

Task 8

STORMWATER MANAGEMENT/HYDRAULIC DESIGN

The CONSULTANT conducted preliminary roadway drainage design, stormwater management, and hydraulic design. The task included drainage field reviews/data acquisition, development of drainage design criteria, preliminary major cross-line studies (major cross-lines are designated as cross-line structures including and larger than 48" pipes), preliminary outfall studies, and preliminary studies for FEMA floodplains and jurisdictional stream crossings, as applicable, and preparation of a Preliminary Drainage Summary Report. Detailed ditch design and closed-system stormwater design was not included in the previous scope of work. Additionally, field surveys of drainage structures / cross-lines, etc. were not performed as part of the previous scope of work.

The CONSULTANT will perform the Stormwater Management and Hydraulic Design for the project based on SCDOT Design Guidelines. Any conflicts in design criteria for the review agencies will be evaluated with the COUNTY to determine the appropriate design procedure for the project, prior to preliminary plan approval. This task includes roadway drainage and hydraulic impact studies for the FEMA floodplain crossings.

Roadway Drainage - The roadway drainage design for the project will be completed utilizing design procedures that comply with stormwater management and sediment and erosion control regulations and the NPDES general permit. All drainage calculations will be performed with methods suggested in the DEPARTMENT's *Requirements for Hydraulic Design Studies* dated May 26, 2009 and be made available to the COUNTY for approval.

The CONSULTANT will perform a field review of the project and a visual inspection of the existing drainage systems within the project area. The inspections performed will not include any material testing or structural analysis. The CONSULTANT will document any irregularities in the existing drainage system and provide the data to the COUNTY. If needed, the CONSULTANT will meet with the COUNTY in the field to review and discuss the condition of the existing drainage system prior to reuse in the proposed design. If additional testing or inspection (video pipe inspection) is recommended, the CONSULTANT will prepare the recommendation and submit to the COUNTY for submittal to the DEPARTMENT.

Roadway drainage design for the project is dictated by the project horizontal and vertical geometry. It is assumed that the proposed closed drainage system will not begin until after approval of a final horizontal and vertical geometry be the COUNTY. The design will be terminated at available existing outfall locations or at new locations that will be constructed as a part of the project. Drainage areas will be defined from the existing topography as determined from available mapping and field survey. Design year storms will be established in conjunction with DEPARTMENT guidelines for on-site and off-site runoff. For the design year storm, rainfall intensities appropriate for the project area will be determined and the runoff will be calculated for each drainage area. For each contributing sub-area, a structure will be identified to

accept the runoff (inlet, cross-pipe, ditch, etc.). Based on accumulation of runoff, appropriate pipe sizes will be chosen to convey the runoff to the outfall.

The hydrologic analysis of each watershed will be performed with the appropriate method for the Sandhills physiographic region. Pre- and post-construction peak discharges will be computed at each outfall. Outfalls will be evaluated in accordance with DEPARTMENT and NPDES regulations. If required to control stormwater quality or peak flow rate, water quality or detention basins will be added using a hydraulic routing method. Energy dissipaters may also be utilized based on HEC-14 procedures. Outfall channel protective measures will be based on design methods in HEC-15 and/or HEC-11.

Roadway cross-lines will be designed and analyzed according to the principles given in FHWA's Hydraulic Design Series No. 5. Cross-line pipes will be sized based on DEPARTMENT criteria and possible backwater effects. To reduce backwater, multiple pipes or multiple barrel culverts may be used in lieu of a single structure. Closed storm sewer systems will be analyzed with GEOPAK Drainage or XP-SWMM. Roadway inlets will be located based on FHWA's Urban Drainage Design Manual HEC-22. Any roadway ditches will be sized with Manning's equation, and designed using HEC-15 methodologies.

The storm sewer design for the project will be performed to minimize impacts to existing utilities if possible. Existing utility data will be obtained by the COUNTY from the utility owners within the project area. The CONSULTANT will utilize this data as part of the design for the storm sewer systems. The CONSULTANT will adjust pipe locations and inverts if possible. If conflicts cannot be avoided, the CONSULTANT will evaluate the use of utility conflict boxes or other devices to minimize the need for utility relocations. The CONSULTANT and the COUNTY acknowledge not all utility relocations can be avoided.

The CONSULTANT will evaluate the potential impacts from the project on water quality. If dictated by project permitting, the CONSULTANT will utilize water quality best management practices to provide treatment to pavement runoff prior to entering environmentally sensitive areas.

The location of the storm drainage systems will be shown on the roadway plan sheets or replicated drainage sheets. Additional plan information will include pipe and drainage structure size, location, type and elevation. A Stormwater Management Design Report will be prepared for the project based on SCDOT guidelines and will include a project description, drainage approach and methodology, design calculations, soils descriptions, and location maps.

Hydraulic Analysis – The proposed improvements along Polo Road will likely impact the FEMA-defined Special Flood Hazard Areas associated with Jackson Creek & Jackson Creek Tributary. The project will include a detailed hydraulic study to evaluate the existing and proposed hydraulic structures. The hydraulic study will be completed according to local, DEPARTMENT, and Federal Emergency Management Agency (FEMA) regulations.

The existing hydraulic structure under Polo Road at Jackson Branch is a 36" RCP crossing. Jackson Branch Tributary is a 48" RCP. The stream crossings within the project corridor are designated Zone AE Special Flood Hazard Areas. The Zone AE designation indicates a detailed hydraulic model has been developed for the streams. The CONSULTANT will obtain and verify all existing hydraulic data and use the existing models as the basis of the studies. The existing models will be updated to reflect field survey data of the project areas. The existing hydraulic model will be utilized to evaluate the potential impacts of extending the culverts. If necessary, the existing hydraulic model will be utilized to evaluate potential replacement structures as well. The proposed conditions models will be developed based on the proposed design to analyze the potential impacts of the project. The analysis of the existing hydraulic data will include a review of the watershed and FEMA calculated design flows to ensure their accuracy with existing conditions. The Hydraulic Design and Risk Assessment will include existing and proposed hydraulic models, hydrological analysis, velocity conditions in the vicinity of the crossing, and any recommendations with regard to stabilization of the waterway. The proposed project may impact the existing FEMA study and, therefore, a Conditional Letter of Map Revision (CLOMR) may be required. If the hydraulic modeling indicated the water surface elevations will not be impacted based on the proposed design, a No-Impact Certification will be completed. If required, the CONSULTANT will prepare all necessary documentation and studies for the CLOMR and provide to the COUNTY for approval. The CONSULTANT will also coordinate with the Floodplain Coordinator and FEMA as needed during the preparation of the CLOMR or No-Impact Certification and during the submittal process. For the purposes of this scope assume that a CLOMR will be required.

Task 9

SEDIMENT AND EROSION CONTROL/NPDES PERMITTING

Sediment and Erosion Control – The project will include the development of Sediment and Erosion Control Plans as well as the preparation of Supporting Documentation for the Land Disturbance Permit Application.

The erosion control plans will be prepared on replications of the roadway plan sheets at a scale of 1"=20', unless otherwise agreed upon. The erosion control plans will reflect a proposed design for minimizing erosion and off-site sedimentation during construction. The erosion and sediment control design will include the temporary placement of sediment ponds, sediment dams, silt basins, inlet structure filters, sediment tubes, silt ditches, and diversion dikes at specific locations along the project. The plans will reference the DEPARTMENT's Standard Drawings for Roadway Construction to assist the contractor with the construction of these items. The plans will also identify the need to maintain, clean, and relocate these erosion control measures as the project progresses and address the removal of temporary erosion control devices following construction. The placement of erosion control measures outside proposed right-of-way through the use of temporary easements will be investigated as a possibility if they will not fit within proposed right-of-way. Quantities for erosion and sediment control items will be calculated based on DEPARTMENT typical drawings. Any required erosion control computations will be completed with approved methods and submitted to the COUNTY.

NPDES Permitting – The project will require the acquisition of a National Pollutant Discharge Elimination System (NPDES) permit for construction activities. The NPDES permit is required by the South Carolina Department of Health and Environmental Control (SCDHEC) for all land disturbing activities in South Carolina.

The CONSULTANT will assist the COUNTY with the development of the NPDES permit application as well as with the submission of any required supporting data. The Stormwater Management Report for the project will contain all supporting data developed by the CONSULTANT for the project. The CONSULTANT will provide additional calculations and make revisions to the construction plans as required by the permit reviewer. This scope of services does not include redesign of any elements of the roadway design as a result of comments from the NPDES permit reviewer. Any required revisions would be completed under a separate contract modification.

Task 10

GEOTECHNICAL EXPLORATIONS AND ENGINEERING SERVICES

General – The CONSULTANT will perform a preliminary and final geotechnical exploration for embankments, new slopes and/or retaining walls, cross-line pipes, culvert extension and shoulder widening. The CONSULTANT will gather samples, conduct tests, and analyze necessary soil and foundation data for embankments, new slopes and/or retaining walls, culvert extensions, and/or culvert replacement. The results of the sampling, testing, analysis, and recommendations concerning the design will be compiled into preliminary & final reports for submittal to the COUNTY. The following design standards will apply:

- 2007 SCDOT Standard Specifications for Highway Construction
- SCDOT Standard Supplemental Specifications and Special Provisions
- 2019 SCDOT Geotechnical Design Manual (GDM), Version 2.0
- 2008 SCDOT Pavement Design Guidelines

Field Exploration (Preliminary Subsurface Exploration) – Prior to beginning the preliminary subsurface field exploration, the CONSULTANT will notify the COUNTY seven (7) days in advance so the COUNTY can coordinate with the DEPARTMENT. The CONSULTANT will comply with published DEPARTMENT lane closure restrictions. CONSULTANT has assumed that COUNTY will obtain permission from property owners for CONSULTANT to perform borings outside of the DEPARTMENT right-of-way.

Preliminary boring locations will be located along or adjacent to the proposed alignments of the roadway, shoulder widening, new slopes, retaining walls, cross-line pipes and culvert extension within the DEPARTMENT's right-of-way and/or outside the DEPARTMENT's right-of-way. The preliminary boring locations will complement the final boring locations. Boring locations in the final exploration may occur outside and/or inside DEPARTMENT right-of-way. The CONSULTANT shall be responsible for providing notification to utility owners prior to geotechnical field work in order to obtain clearance of utilities and marking of utility lines and

services. A request for utility marking will be made to the Statewide Utility One-call Service (SC811) at least 3-days prior to field work. Information obtained in Task 12 will be shared with geotechnical staff prior to field exploration work. Proposed boring locations will be determined by the CONSULTANT. The CONSULTANT will provide copies of the proposed preliminary subsurface exploration plans including the anticipated final boring locations to the COUNTY prior to initiation of field work for review and acceptance. See Chapter 4 of the SCDOT GDM for subsurface exploration guidelines. The preliminary subsurface exploration plan will include, as a minimum, the following:

- Description of the soil or rock stratification anticipated
- Description of the proposed testing types
- Depth of tests
- Location of tests

Embankments, New Slopes and/or Retaining Walls, Cross-line Pipes, Culvert Extension– Subsurface Exploration

- Roadway soil test borings will be performed in general accordance with the SCDOT Geotechnical Design Manual which references the SCDOT Pavement Design Guidelines for boring frequency. The CONSULTANT has assumed that cut and fill sections will be ten (10) feet or less for the majority of the roadway improvements.
- Eleven (11) roadway embankment soil test borings (hand auger borings with dynamic cone penetrometers or Standard Penetration Test (SPT) borings) will be performed up to depths ranging from 5 to 20 feet, auger refusal, or hole collapse (whichever occurs first) inside and outside the DEPARTMENT right-of-way. Preliminary soil test borings will be spaced approximately 1,000 feet along the roadway, shoulder widening and multi-use path.
- Five (5) embankment/retaining wall test SPT borings will be performed to depths ranging from 20 to 25 feet or refusal (whichever occurs first) inside the DEPARTMENT right-of-way.
- Two (2) bulk samples will be obtained for laboratory testing to be used as part of new slope/retaining wall analysis.
- Twenty-two (22) bulk samples will be obtained for pavement thickness recommendations. Bulk samples will be obtained from a combination of shallow excavations in the existing shoulder and from roadway embankment boring auger cuttings.
- At this time the quantity, location, length and height of the proposed embankment expansion/retaining walls are not generally defined, but retaining walls may be needed due to right-of-way acquisition costs.
- One (1) SPT boring is proposed for culvert extensions. The boring will be extended to a depth of 15 feet or auger refusal, whichever is shallower. Two (2) hand auger borings are also proposed in the channel on each end of the culvert in case culvert extensions are utilized. These borings may be inside or outside the DEPARTMENT's right-of-way. Clearing will likely be needed for access.
- Twenty-four hour water measurements will be made in the SPT and hand auger borings.

Bore holes will be backfilled with auger cuttings. Core holes in the pavement needed for boring access will be backfilled with cold-patch asphalt.

Other Field Testing Items

- Traffic control will be performed in accordance with the latest DEPARTMENT guidelines. It is anticipated that 5 days of lane closures and 5 days of shoulder closures will be necessary to safely access the boring locations.
- At the completion of field work, test locations will be surveyed for latitude and longitude, elevation and station as part of Task 3.

Field Engineering – The CONSULTANT will provide oversight of hand auger borings and drill rig operations by a field engineer and/or field geologist. Soil Classification in accordance with USCS (ASTM D2487) will be performed by a field engineer and/or field geologist who will have a minimum of 3-years of experience in supervision of field equipment and field personnel.

Laboratory Testing – The CONSULTANT will be AASHTO certified in the anticipated laboratory testing outlined below and/or any additional testing that may be required. See Chapter 5 of the SCDOT GDM for AASHTO and ASTM designations. The laboratory testing will be performed on selected samples in order to evaluate the types of soils encountered, confirm visual classifications, and estimate engineering properties for use in design. Laboratory testing for the preliminary exploration will be the following:

- 26 Natural Moisture Content Tests
- 26 Grain Size Distributions with wash No. 200 Sieve
- 26 Moisture-Plasticity Relationship Determinations (Atterberg Limits)
- 22 SCDOT Soil Classification Tests (Bulk Samples for Pavement Thickness)
- 2 Remolded Tri-axial Shear Tests (CU) or Direct Shear Tests depending on soil classification
- 24 Standard Proctor Tests
- 22 Three-Point California Bearing Ratio (CBR) Tests.

Preliminary Geotechnical Subsurface Data Report – After the completion of field and laboratory testing, a preliminary Geotechnical Subsurface Data Report (GSDR) will be prepared in general accordance with the procedures outlined in the GDM. The preliminary GSDR shall be written in general accordance with the GDM Chapter 21. The preliminary GSDR will be signed and sealed by a registered SC Professional Engineer.

Preliminary Roadway Geotechnical Engineering Report – The Preliminary Roadway Geotechnical Engineering Report will be conducted in general accordance with the procedures outlined in the GDM. The report will include a subsurface profile for the preliminary geotechnical subsurface exploration in accordance with the GDM Chapter 7. The preliminary geotechnical engineering report shall be written in general accordance with the GDM Chapter 21. The preliminary report will also include recommendations for two (2) hot-mixed asphalt

HMA pavement sections. Consultant will recommend a section supported on Graded Aggregate Base Course (GABC) and a section supported on HMA Base Course. The preliminary report will be signed and sealed by a registered SC Professional Engineer. The report will be submitted at least 7-days prior to the submittal of preliminary right-of-way plans.

Field Exploration (Final Subsurface Exploration) – Prior to beginning the final subsurface field exploration, the CONSULTANT will notify the COUNTY seven (7) days in advance so the COUNTY can coordinate with the DEPARTMENT. The CONSULTANT will comply with published DEPARTMENT lane closure restrictions. CONSULTANT has assumed that COUNTY will obtain permission from property owners for CONSULTANT to perform borings outside of the DEPARTMENT right-of-way

CONSULTANT will request an updated SC811 ticket prior to starting field work for the final exploration.

Final boring locations will be determined by the CONSULTANT. The CONSULTANT will provide copies of the proposed final subsurface exploration plans to the COUNTY prior to initiation of field work for review and acceptance. The testing locations will be coordinated with the preliminary exploration to avoid testing in the same location. See Chapter 4 of the SCDOT GDM for subsurface exploration guidelines. The final subsurface exploration plan is to include, as a minimum, the following:

- Description of the soil or rock stratification anticipated
- Description of the proposed testing types
- Depth of tests
- Location of tests

Embankments, New Slopes and/or Retaining Walls, Culvert Extension – Subsurface Exploration

- CONSULTANT will have determined location and extent of new retaining walls prior to field work for the final geotechnical exploration.
- CONSULTANT will also have determined if the 36” and/or the 48” pipe culverts will be extended or replaced.
- Roadway soil test borings will be performed as specified in the SCDOT Geotechnical Design Manual which references the SCDOT Pavement Design Guidelines for boring frequency. The CONSULTANT has assumed that generally cut and fill sections will be five (5) feet or less in height for the majority of the improvements.
- Final soil test borings will be performed at a frequency of approximately 1,000 feet within the DEPARTMENT’s right-of-way or on private property with access permission obtained by the COUNTY. The combined preliminary and final boring spacing should be approximately 500 feet. Retaining walls require a boring every 150 feet.
- Eleven (11) additional roadway soil test borings (hand auger borings with dynamic

cone penetrometers or SPT borings) will be performed up to depths ranging from 5 to 20 feet, auger refusal, or hole collapse (whichever occurs first) inside and/or outside the DEPARTMENT right-of-way.

- We have assumed six (6) pipe culvert cross-ties will be constructed along the project corridor. To evaluate subgrade conditions at these culvert cross-tie locations twelve (12) soil test borings (hand auger borings with dynamic cone penetrometers or SPT borings) will be performed up to depths ranging from 5 to 15 feet, auger refusal, or hole collapse (whichever occurs first) inside and/or outside the DEPARTMENT right-of-way.
- Four (4) embankment/retaining wall soil test SPT borings will be performed to depths ranging from 20 to 35 feet or refusal (whichever occurs first). Boring may be conducted within the DEPARTMENT's right-of-way and/or on private property.
- Two (2) bulk samples will be obtained for laboratory testing to be used as part of slope stability/retaining wall analysis.
- Two (2) drainage culverts are expected to be extended on end or replaced. One (1) Standard Penetration Test (SPT) boring to a depth of 15 feet is planned to supplement the borings from the preliminary exploration. The SPT boring should accomplish the GDM minimum test frequencies for culvert extensions or culvert replacement when combined with the preliminary exploration. Clearing may be needed for access.
- Twenty-four hour water measurements will be made in the SPT and hand auger borings.

Other Field Testing Items

- Traffic control will be performed in accordance with the latest DEPARTMENT guidelines. It is anticipated that 5 days of lane closures and 5 days of shoulder closures will be necessary.
- At the completion of field work, test locations will be surveyed for latitude and longitude, elevation and station as part of Task 3.

Field Engineering – The CONSULTANT will provide oversight of hand auger borings and drill rig operations by a field engineer and/or field geologist. Soil Classification in accordance with USCS (ASTM 2487) will be performed by a field engineer and/or field geologist who will have a minimum of 3-years of experience in supervision of field equipment and field personnel.

Laboratory Testing – The CONSULTANT will be AASHTO certified in the anticipated laboratory testing outlined below and/or any additional testing that may be required. See Chapter 5 of the SCDOT GDM for AASHTO and ASTM designations. The laboratory testing will be performed on selected samples in order to evaluate the types of soils encountered, confirm visual classifications, and estimate engineering properties for use in design. Laboratory testing may include, as estimate, the following:

- 25 Natural Moisture Content Tests
- 25 Grain Size Distributions with wash No. 200 Sieve
- 25 Moisture-Plasticity Relationship Determinations (Atterberg Limits)

- 2 Remolded Tri-axial Shear Tests (CU) or Direct Shear tests depending on soil classification.
- 2 Standard Proctor tests

Final Geotechnical Subsurface Data Report – After the completion of field and laboratory testing, a final Geotechnical Subsurface Data Report (GSDR) will be prepared in general accordance with the procedures outlined in the GDM. The final GSDR shall be written in general accordance with the GDM Chapter 21. The report will include recommendations for HMA pavement composition and layer thicknesses. The pavement layer compositions and thicknesses may be modified from the preliminary report based on comments received from the SCDOT, County, and/or Prime Consultant. However, the recommended HMA pavement base layer will be comprised of GABC or HMA base. Cement-stabilized earth base (CSEB), cement-modified recycled base (CMRB), and cement-stabilized aggregate base (CSAB) design and recommendations are not included. Traffic counting is not included in Geotechnical Scope. Consultant will use published SCDOT traffic data to develop recommendations. The final GSDR will be signed and sealed by a registered SC Professional Engineer.

Final Roadway Geotechnical Engineering Report – The Final Roadway Geotechnical Engineering Report will be conducted in general accordance with the procedures outlined in the GDM. The report will include a subsurface profile for the final geotechnical subsurface exploration in accordance with the GDM Chapter 7. The final geotechnical engineering report will be written in general accordance with the GDM Chapter 21. The final report will be signed and sealed by a registered SC Professional Engineer. The report will be submitted with the Preliminary Construction Plans.

The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

This scope of services does not include any work or activities associated with geotechnical investigations for the development of pavement designs. The COUNTY will provide approved pavement design(s) to the CONSULTANT.

Task 11

ROADWAY STRUCTURES DESIGN AND PLANS

General – This task includes design and plan development criteria for potential retaining walls and a culvert extension that may be required due to the proposed improvements along the project corridor. There will be no aesthetic requirements for the retaining walls or culvert. Location and quantities of any temporary shoring required for roadway construction will be included in the roadway structures construction plans; the shoring design and detailing is the responsibility of the contractor. The following design and construction specifications will be used in the design and preparation of retaining wall and culvert plans:

- The 2007 edition of the DEPARTMENT's *Standard Specifications for Highway Construction.*
- AASHTO's *LRFD Bridge Design Specifications*, 6th edition (2012) and the latest Interim Specifications in place at the time of contract execution.
- AASHTO's *LRFD Bridge Construction Specifications,* 3rd edition (2010) and the latest Interim Specifications in place at the time of contract execution.
- The DEPARTMENT's *Geotechnical Design Manual, v. 2.0, 2019*
- Supplemental and Technical Supplemental Specifications as already prepared by the DEPARTMENT for design and/or construction.
- DEPARTMENT's Standard Drawings for Road and Bridge Construction.
- DEPARTMENT's *Roadway Design Manual, 2017.*
- DEPARTMENT's *Road Design Plan Preparation Guide.*
- AASHTO "Guide Specifications" as may be applicable to the project.

Retaining Wall Design and Plans – A retaining wall(s) may be required. The roadway retaining walls are assumed to be cast-in-place, reinforced brick masonry, and/or keystone retaining walls and will be represented in the plans by plan views, envelope drawings, and associated notes and details. It is assumed that approximately 2,000 linear feet of retaining wall, at up to 5 separate locations from 2' - 10' high, will be required.

Culvert Design and Plans – There are two existing culverts within the project area that are of insufficient length to accommodate the proposed roadway section. The existing hydraulic structure under Polo Road at Jackson Branch is a 36" RCP crossing. Jackson Branch Tributary is a 48"RCP. Per calculations prepared in the preliminary phase of the project, the 48" RCP will need to be replaced. If the existing 36" pipe meets hydraulic design criteria the culvert must be evaluated to determine if it is suitable for extension or if complete replacement will be required. The CONSULTANT will be required to make a recommendation to the COUNTY.

For fee purposes, it is assumed that the culvert will be extended on both ends. The culvert extension will be represented in the plans by plan and elevation views, as well as associated notes and representative details.

Noise wall design is excluded from this scope of services.

Task 12

SUBSURFACE UTILITIES ENGINEERING (SUE)

Within 45 days of Notice to Proceed for the contract, the CONSULTANT will provide the COUNTY with a recommendation as to the extent of SUE services to be provided. This should include as much information as can be assembled on utility type, approximate location, owner, and material type. This information will be used to specifically define the limits of the SUE work to be performed.

The CONSULTANT shall perform work in two phases. The first phase consists of designating services (Quality Level B and C). For the purpose of this agreement, "designate" shall be defined as indicating (by marking) the presence and approximate horizontal position of the subsurface utilities by the use of geophysical prospecting techniques. The second phase consists of test hole services (Quality Level A). For the purpose of this agreement, "locate" means to obtain the accurate horizontal and vertical position of the subsurface utilities by excavating a test hole. The CONSULTANT shall provide these services as an aide in the design of right-of-way and construction plans for the project.

Unless specifically stated otherwise, the CONSULTANT shall adhere to the ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02).

Designating shall be estimated on a cost per linear foot basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Locating shall be estimated on a per-each basis and shall include all labor, equipment, and materials necessary to provide complete SUE plans. Direct charges for mileage, meals, lodging and reproductions shall be shown separately. Traffic control shall be estimated on a per day basis and shown separately. No separate payment will be made for mobilization and should be included in the per linear foot or per each price for designating or locating.

Designating –

A. In the performing of designating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of **Quality Level B** information for approximately 77,504 LF of underground utilities.
2. Provide all equipment, personnel and supplies necessary for the completion of **Quality Level C** information for approximately **9,000** LF of underground utilities.
3. Provide all equipment, personnel, and supplies necessary for the accurate recording of information for approximately 0 LF of **aerial utilities**. *The estimation of aerial utilities is measured from power pole to power pole and is not an estimation of each line attached to the poles.*
4. Conduct appropriate records and as-built plans research and investigate site conditions. Digital copies of records and as-built plans research to be provided to COUNTY.

5. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work within the existing streets, roads and rights-of way.
6. Designate the approximate horizontal position of existing utilities by paint markings or pin flags in accordance with the APWA Uniform Color Code scheme along the utility and at all bends in the line in order to establish the trend of the line. All utilities shall be designated as well as their corresponding lateral lines up to the point of distribution, existing right-of-way limits, or whichever is specifically requested and scoped for each individual project.
7. Survey designating marks, which shall be referenced to project control provided by the surveyor of record.
8. Draft survey information using DEPARTMENT CADD guidelines for Subsurface Utility Engineering consultants (latest version).
9. Final review and seal of all appropriate work by a professional engineer and/or land surveyor licensed in South Carolina in responsible charge of the project.

B. In the performing of designating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.
2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

The above quantities are based on the Level B designation assuming 10,000 feet along Polo Road and 33 feet along each side road and 33 feet down each entrance road. It is assumed that there will be 11 utility providers within the project limits. 6 undergound designated utilities along Polo Road, and 3 aerial utilities(aerial is not included in this scope). Side roads are assumed to be similar to Polo Road (assuming some utilities have multiple lines). US 1 intersection is not part of the scope of services.

The CONSULTANT will notify the COUNTY immediately should additional SUE be recommended. The CONSULTANT will notify the COUNTY'S designated Project Manager prior to performing any work on site.

Locating –

No locating services (Level A test holes) are included as a direct service associated with this scope of work. Should locating services be deemed necessary during the design and utility coordination services, these services shall be paid for through the project contingency budget on a per Level A test hole cost. CONSULTANT to provide a per test hole cost for future use, should locating services be needed.

The services to be conducted by the CONSULTANT, in the performance of locating services, only as directed and by prior approval by the COUNTY, include the following:

A. In the performance of locating services under this agreement, the CONSULTANT shall,

1. Provide all equipment, personnel and supplies necessary for the completion of Quality Level A test holes.
2. Conduct appropriate records and as-built research and investigate site conditions. All records and as-built research to be made available to the COUNTY.
3. Obtain all necessary permits from city, county, state or any other municipal jurisdictions to allow CONSULTANT personnel to work within the existing streets, roads and rights-of-way.
4. Perform electronic or ground penetrating radar sweep of the proposed conflict and other procedures necessary to adequately "set-up" the test hole.
5. Excavate test holes to expose the utility to be measured in such a manner that insures the safety of excavation and the integrity of the utility to be measured. In performing such excavations, the CONSULTANT shall comply with all applicable utility damage prevention laws. The CONSULTANT shall schedule and coordinate with the utility companies and their inspectors, as required, and shall be responsible for any damage to the utility during excavation.
6. Provide notification to the COUNTY concerning 1) the horizontal and vertical location of the top and/or bottom of the utility referenced to the project survey datum; 2) the elevation of the existing grade over the utility at a test hole referenced to the project survey datum; 3) the estimated outside diameter of the utility and configuration of non-encased, multi-conduit systems; 4) the utility structure material composition, when reasonably ascertainable; 5) the benchmarks and/or project survey data used to determine elevations; 6) the paving thickness and type, where applicable; 7) the general soil type and site conditions; and 8) such other pertinent information as is reasonable ascertainable from each test hole site.
7. When an attempt to locate a utility line over an area where SUE was performed does not provide valid vertical data, the test hole shall not be reimbursable by the COUNTY. In the following cases, test holes shall be reimbursed by the COUNTY regardless of obtaining valid vertical data:
    a. Utility lines buried in materials that cannot be removed by vacuum techniques other than duct banks,

    The CONSULTANT to provide a separate unit cost for "test holes attempted" and any test holes that do not provide valid vertical data, shall be paid at this rate.

8. Provide permanent restoration of pavement within the limits of the original cut. When test holes are excavated in areas other than roadway pavement, these disturbed areas shall be restored as nearly as possible to the condition that existed prior to the excavation.
9. Draft horizontal location and, if applicable, profile view of the utility on the project plans using CADD standards as outlined above. A station and offset distance and/or northing and easting coordinates (State Plane) with elevations shall be provided with each test hole.
10. Test hole information shall be formatted and presented on CONSULTANT's certification form and listed in a test hole data summary sheet.
11. Certification form shall be reviewed and sealed by a professional engineer and/or land surveyor licensed in South Carolina and in responsible charge of the project.

B. In the performance of locating services under this agreement, the COUNTY shall,

1. When requested, provide reasonable assistance to the CONSULTANT in obtaining plans showing the project limits, alignment, centerline, rights-of-way limits (existing and proposed), project controls and other data for selected projects.
2. Provide notification to key DEPARTMENT District personnel concerning the upcoming SUE services to be provided by the CONSULTANT.

Task 13

UTILITY COORDINATION ASSISTANCE

The CONSULTANT shall coordinate the project development with the COUNTY's Utility Coordinator. Coordination shall involve inviting the COUNTY's Utility Coordinator to necessary project meetings, providing updates to schedule, and providing project files as requested by COUNTY's Utility Coordinator. The CONSULTANT will provide electronic copies and pdf's of the Survey and Subsurface Utility Engineering as well as a listing of the utilities that exist within the project limits as soon as the information becomes available so that early coordination with utility companies can begin. The COUNTY'S Utility Coordinator will handle coordination of the project development with utility companies. The CONSULTANT will anticipate approximately 4 meetings for Utility Coordination.

Task 14

CONSTRUCTION PHASE SERVICES

The proposed construction phase services shown below are assumed at this time. All necessary construction phase services will be evaluated and negotiated upon completion of the design services tasks and prior to the proposed construction contract. A contract modification will be negotiated for these services, if necessary.

Pre-Construction/Partnering Conference – The CONSULTANT will attend the Pre-Construction/Partnering Conference and respond to questions by the CONTRACTOR pertinent to the design and proposed construction methodology. Assume one Pre-Construction/Partnering Conference.

Construction Phase Project Meetings – The CONSULTANT will attend meetings with the COUNTY to discuss construction issues as needed during the construction of this project. Assume 24 meetings, as needed. The CONSULTANT will not be responsible for agendas, minutes, or other materials for this task.

Construction Phase Assistance - The CONSULTANT will assist COUNTY personnel during the construction phase when problems or questions arise relating to the design and proposed construction methodology. Assume 6xx hours per month for project construction duration of 24 months.

Construction Revisions – The CONSULTANT will make necessary revisions to construction plans that arise during the construction phase of the project. Assume 5 construction revisions.

Shop Plans and Working Drawings Review – The CONSULTANT will review the Contractor's shop drawings and working drawings as required by the 2007 Edition of the *Standard Specifications for Highway Construction*, in a timely manner following award of contract and during construction. This includes retaining wall components only.

Geotechnical Design and Construction Services – The CONSULTANT shall also provide geotechnical construction engineering services which shall include the following items:

- General embankment construction troubleshooting
- Written evaluation of soil strength testing on borrow excavation materials
- General retaining wall construction troubleshooting
- Review and approval of the Contractor's MSE shop drawings, if applicable
- The scope of services shall be conducted according to the DEPARTMENT's Standard Specifications, supplemental specifications, and/or plan notes.

The CONSULTANT should anticipate 96 total hours for this task.

As-Built Plans – The CONSULTANT will not be responsible for the development of As-Built Plans for this project.

Services Not Provided

Services not provided by the CONSULTANT include, but are not limited to, the following:

- Lighting and Electrical plans
- Landscaping and irrigation plans
- No structural design for new bridges
- Environmental Assessment Documentation
- Falling Weight Deflectometer (FWD) testing
- Video Pipe Inspection
- The CONSULTANT shall not be the "responsible engineer" referenced IN 2009-04 who evaluates the structural condition and performs the preliminary inspection of existing pipes and culverts to determine if they can be retained. The DEPARTMENT shall determine if existing pipes and culverts are to be retained due to structural conditions. The CONSULTANT will indicate the retention/extension of all existing pipes/culverts which meet the hydraulic requirements unless otherwise directed by the DEPARTMENT
- Sight-specific Response Analysis study
- Utility relocation design and plans
- Utility coordination, other than previously stated
- Right-of-way acquisition, exhibits, negotiations, or appraisals
- Administering or advertising the bid process

- Fabricating or erecting signs for public meetings
- Alternate designs for bidding
- Construction Engineering and Inspection (CEI)
- Location of water and sewer utility services for each utility customer in the project area.
- All other services not specifically included in this scope of work

Services of the COUNTY

The COUNTY agrees to provide to the CONSULTANT, and at no cost to the CONSULTANT, the following upon request:

- Access to and use of all reports, data and information in possession of the COUNTY which may prove pertinent to the work set forth herein.
- Existing Policies and Procedures of the COUNTY with reference to geometrics, standards, specifications and methods pertaining to all phases of the CONSULTANT's work.
- Eminent Domain advertisement notice.
- Coordinate, advertise, fabricate and erect signs, and approve location for Public Meeting.
- Provide Security guard for the public information meeting.
- Final processing of JD and Wetlands Permit and coordination with the agencies.
- Existing roadway plans.
- Approved Design Criteria.
- Preliminary Plans and associated CADD and other related files
- SCDOT Comments & Responses to the Preliminary Plans.
- Provide existing signalized intersection coordination timing(s), existing interconnect plan, and location of master, if applicable.

- Section 106 of the National Historic Preservation Act.
- Provide Existing utility data provided by Utility Owners within the project area
- As-built roadway plans.
- Construction Engineering and Inspection (CEI)
- Phase 1 Environmental Site Assessment
- Approved Traffic Report

Project Deliverables

The CONSULTANT will submit the deliverable items shown below within the time allotted for each phase of work. Delivery may not be in the order shown.

- Monthly status updates
- Meeting agendas and minutes
- Permit Determination Form
- Pavement coring or pavement design
- Utility coordination
-
- SCDOT USACE General Permit Application Package, including supplemental documentation
- Phase 1 Cultural Resources Surveys (Two (2) NRHP sites)
- Attendance at two (2) public meetings
- Public Meeting displays & documents (hard copies and PDF versions), as stated in scope
- Recommendation for extent of SUE services – 45 days from NTP
- Full size color plots of SUE and Survey along with Microstation/PDF electronic files, for COUNTY utility coordination and design.
- Design Exception documentation.
- Preliminary Right-of-Way Plans
- Final Right-of-Way Plans
- Final Right-of-Way Microstation files
- Right of Way services
- Utility Report and coordination
- Right-of-Way Plans stage construction cost estimates
- Traffic Signal Warrant Studies & Technical Memo
- Preliminary and final traffic signal design
- Transportation Operations Plan and Public Information Plan
- Stormwater Management Report
- If necessary, CLOMR for Polo Road at Jackson Branch and Jackson Branch Tributary.
- Preliminary Roadway Construction Plans
- Contract documents
- Final Roadway Construction Plans, project specific specifications, and Engineer's construction cost estimate
- NPDES permit application/Notice of Intent
- Preliminary and final geotechnical roadway reports

Schedule

Below is a summary of significant milestones and anticipated submittal timeframes:

Field Surveys / Mapping Verification / SUE ……	3	months from NTP
Preliminary Right-of-Way Plans ……	6	months from NTP
assume COUNTY review (2 weeks) ……	6.5	months from NTP
assume SCDOT review (1 month) ……	7.5	months from NTP
Final Right-of-Way Plans ……	9	months from NTP
assume COUNTY review (2 weeks) ……	9.5	months from NTP
assume SCDOT review (1 month) ……	10[illegible]5	**months from NTP**
Preliminary Construction Plans ……	13.5	months from NTP
assume COUNTY review (2 weeks) ……	14	months from NTP
assume SCDOT review (1 month) ……	15	months from NTP
Final Construction Plans ……	18	months from NTP

The submittal dates include time for COUNTY/DEPARTMENT review as noted. Per the Intergovernmental Agreement between the COUNTY and the DEPARTMENT, the DEPARTMENT has 25 business days for their review.

Attachment 3

Polo Road								
Task	Total	Cox & Dinkins	DESA	CECS	Chao	DAD	F&ME	Kimley Horn
1 - Project Management	$67,890.00	$51,000.00	$12,450.00			$4,440.00		
2 - Environmental Services/ Permitting/Public Meeting	$55,777.12	$14,760.00	$1,380.00	$39,637.12				
3 - Survey	$76,650.00	$76,650.00						
4 - Roadway Design	$250,390.00	$246,380.00						$4,010.00
5- Pavement Marking and Signage	$18,600.00	$18,600.00						
6- Traffic Signal Design	$18,736.00	$1,200.00				$17,536.00		
7- Transportation Management Plan	$17,550.00	$17,550.00						
8- Stormwater management plan	$110,464.80	$88,200.00			$22,264.80			
9- Sediment and Erosion Control	$34,660.00	$8,400.00	$26,260.00					
10- Geotechnical Investigations and Engineering Services	$177,963.50	$2,400.00					$175,563.50	
11- Roadway Structures Design and Plans	$147,080.00	$6,000.00			$141,080.00			
12- Subsurface Utilities Engineering	$162,003.60	$37,737.60		$124,266.00				
13- Utility Coordination Assistance	$7,750.00	$4,800.00	$2,950.00					
14- Construction Phase	$57,820.00	$36,900.00			$8,200.00		$12,720.00	
Total	$1,203,335.02	$610,577.60	$43,040.00	$163,903.12	$171,544.80	$21,976.00	$188,283.50	$4,010.00
Total %	100.0%	50.7%	3.6%	13.6%	14.3%	1.8%	15.6%	0.3%

DBE Certified		X	X	X	X		
SLBE Certified		X		X	X		

DBE Utilization	31.5%
SLBE Utilization	17.8%

Contract Amount

Lump Sum	$935,230.00
Approved Direct Expenses	$268,105.02
Total	$1,203,335.02
Contingency	*$93,523.00*

Direct Expenses

SUE and Survey of SUE	$159,603.60
Agency fees for approvals	$3,000.00
Geotech	$105,183.50
Per Diem	$88.00
Mileage	$129.92
SCDMV Crash Data fee	$100.00
Total	$268,105.02

RICHLAND COUNTY ADMINISTRATION
2020 Hampton Street, Suite 4069
Columbia, SC 29204
803-576-2050

Agenda Briefing

Prepared by:	Michael Niermeier, Director	**Contributor**	Quinton Epps, Division Manager
Department:	Transportation		
Date Prepared:	September 14, 2020	**Meeting Date:**	September 22, 2020

Legal Review	Malane Pike via email	**Date:**	September 16, 2020
Budget Review	James Hayes via email	**Date:**	September 15, 2020
Finance Review	Stacey Hamm via email	**Date:**	September 15, 2020
Approved for consideration:	Assistant County Administrator	John M. Thompson, Ph.D., MBA, CPM	

Committee Subject: Mitigation Credit Sales- Weyerhaeuser NR Company, I-26 Interchange Widening Project (MM 85-101)

Recommended Action:

Staff recommends the Committee concur with these credit sales and forward to full Council for approval. This is time sensitive as the buyer has requested notice of approval prior to October 7, 2020 at 5:00 pm ET due to the Army Corps of Engineers permitting constraints.

Motion Requested:

1. Move to approve the mitigation credit sales; or,
2. Move to deny the mitigation credit sales.

Request for Council Reconsideration: ☑Yes

Fiscal Impact:

This mitigation credit sale will generate $125,974.40 which will be credited back to the Transportation Penny Program.

Motion of Origin:

There is no associated Council motion of origin.

Council Member	
Meeting	
Date	

Discussion:

Staff requests approval for the sale of mitigation bank credits from the Mill Creek Mitigation Bank to Weyerhaeuser NRC Company for an Army Corps of Engineers (ACE) 404 Permit for the widening of interchanges along I-26 as described in the attachments. This mitigation bank was established with Transportation Program funding in order to provide mitigation credits necessary to acquire construction permits for transportation and other projects. Funding from credit sales is credited back to the Transportation Program.

This approval is time sensitive as the buyer has requested notice of approval prior to October 7, 2020 at 5:00 pm ET due to Army Corps of Engineers permitting constraints.

Project Name: I-26 Interchange Widening MM 85-101

Richland County Share: $125,974.40

Attachments:

1. Surplus Credit Sale Checklist Weyerhaeuser NR 09.14.2020
2. MCMB Surplus Credit Sales Agreement Weyerhaueser_Credit Sales 09.14.2020

SALES NOTICE

This document is intended to serve as the "Sales Notice" required in Exhibit D, Section ii of the Purchase and Sale Agreement (the "Agreement") for Reserved Mitigation Credits between Mill Creek Mitigation Holdings LLC ("MCMH") and Richland County (the "County"). Prior to this particular Sales Notice, sales of the County's Buyer Surplus Credits (as defined in the Agreement) have been administered under Section i of Exhibit D; now that there are Excess Credits (as defined in the Agreement), Section ii governs.

Pursuant to Section ii, the County has three business days to respond to this Sales Notice to confirm whether it would like to participate in the credit sale opportunity through the sale of its Buyer Surplus Credits. The below summary of the sales opportunity provides details on the sale and the calculation of proceeds if the County chooses to fulfill 100% of the sales opportunity using Buyer Surplus Credits. To the extent the County declines to participate or fails to respond within three business days, MCMH is free to utilize its Excess Credits to fulfill the sale, in which case the County would be entitled to 20% of the gross sales price, as further provided in the Agreement.

Because of the change in procedure, and solely for purposes of this Sales Notice, MCMH hereby waives its right to fulfill the sale solely from Excess Credits in the event the County fails to respond within three business days of this Sales Notice, so long as the County officially and affirmatively responds on or prior to October 7, 2020 at 5:00ET. For avoidance of doubt, if the County does not respond on or prior to such date, MCMH will be free to fulfill 100% of the need from its Excess Credits.

Enclosed with this Sales Notice is the current draft of the Credit Sales Agreement (the "Sales Agreement"). Notwithstanding the foregoing, and as a condition precedent to the waiver by MCMH described in the preceding paragraph, if the County does not provide any comments to this Sales Agreement within three business days of this Sales Notice but ultimately elects to participate in the sale, the County must agree to be bound by the terms of the sale as reflected in the final Sales Agreement, including any modifications to such Sales Agreement agreed to by MCMH prior to closing.

Please let us know if you have any questions.

Sincerely,

MILL CREEK MITIGATION HOLDINGS LLC

MITIGATION CREDIT SALES AGREEMENT SUMMARY

Project:	I-26 Interchange Widening MM 85-101
Location:	The project includes widening I-26 from 4 to 6 lanes for approximately 12 miles and from 4 to 8 lanes for approximately 4 miles. Interchange improvements are anticipated at Exit 97 (US 176), Exit 91 (S-48 Columbia Ave.), and Exit 85 (SC 202). Overpass bridge replacements are anticipated at S-58 (Koon Road), S-80 (Shady Grove Road), S-234 (Mt. Vernon Church Road), S-405 (Old Hilton Road), S-49 (Peak Street), S-39 (Peak Road), and S-167 (Parr Road). More detailed project information can be found on the following website:
8-Digit HUC Watershed Code	03050106 (Lower Broad River)
Buyer:	Weyerhaeuser NR Company
Buyer's USACE 404 Permit #:	Awaiting permit number from buyer
Price Per Wetland Credit:	$20,000
Price Per Stream Credit:	$200
Wetland Credits:	6.76 restoration/enhancement credits
Stream Credits:	0.00
Credit Proceeds:	$135,200.00
Richland County Credit Share:	$124,384.00 (92% of $135,200.00)
MCMH Credit Share:	$10,816.00 (8% of $135,200.00)
Fee for Out of Primary Service Area Sale:	$7,952.00
Richland County Fee Share:	$1,590.40 (20% of $7,952.00)
MCMH Fee Share:	$6,361.60 (80% of $7,952.00)
Proceeds (Inclusive of Fee for Out of Primary Service Area Sale:	$143,152.00
Richland County Proceeds Share:	$125,974.40
MCMH Proceeds Share:	$17,177.60

AGREEMENT FOR PURCHASE AND SALE OF STREAM AND/OR WETLAND MITIGATION CREDITS

THIS AGREEMENT FOR PURCHASE AND SALE OF STREAM AND/OR WETLAND CREDITS (this "Agreement") is dated this ____ day of _____, 2020 (“Effective Date”), by and between MILL CREEK MITIGATION HOLDINGS LLC, a Delaware limited liability company, and the owner and operator of a stream and wetland mitigation bank commonly known as the Mill Creek Mitigation Bank ("Seller"), and WEYERHAEUSER NR COMPANY, a Washington corporation (“Purchaser").

RECITALS

A. The Mill Creek Mitigation Bank (the “Bank”) was approved and is being operated pursuant to that certain Final Mitigation Banking Instrument: Mill Creek Mitigation Bank, dated December 22, 2015, United States Army Corps of Engineers - Charleston District (the “Corps”) permit number SAC-2014-00222 (the “MBI”);

B. Pursuant to the MBI, the Bank may offer wetland and stream credits for sale as compensation for unavoidable adverse impacts to, or for the loss of, among other things, jurisdictional waters of the United States, including wetlands and streams, and other natural habitats and ecosystems, located inside, and under certain circumstances, outside that certain geographical service area more particularly depicted on the attached **Exhibit A** (the “Service Area”);

C. Pursuant to applicable Corps policies, to the extent that Bank credits are sold as compensation for unavoidable adverse impacts to jurisdictional waters located outside the Service Area and outside the 8-digit Hydrological Unit Code watershed in which the Bank is located (the “Bank’s Watershed”), Seller is required by the Corps to commit incremental acres of wetlands per wetland mitigation credit, and incremental linear feet of stream per stream mitigation credit, in excess of that required if such wetland mitigation credits and stream mitigation credits, as applicable, were sold inside the Service Area and inside the Bank’s Watershed;

D. Purchaser may purchase wetland and stream mitigation credits from the Bank as compensation for unavoidable adverse impacts to jurisdictional waters of the United States for Purchaser’s projects located outside the Bank’s Watershed upon Purchaser receiving Corps approval;

E. Purchaser desires to procure compensatory mitigation in connection with the project known as "Interchange 26 Widening MM 85-101" pursuant to USACE Charleston District permit SAC-2018-00748 (the "Permitted Project"), which is located outside the Service Area and outside the Bank's Watershed;

F. Purchaser desires to purchase from Seller, and Seller desires to sell to Purchaser, wetland and/or stream mitigation credits pursuant to the terms and conditions set forth herein if no credits are available from a bank with a service area and watershed that encompass the Permitted Project by the Closing Date (as defined below).

AGREEMENT

In consideration of the foregoing and the mutual promises, covenants, agreements and obligations of the parties contained in this Agreement, the adequacy and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, Seller and Purchaser agree as follows:

1. Recitals. The recitals to this Agreement are herein incorporated by reference and made an integral part hereof.

2. Sale of Credits. On the Closing Date (defined below), Seller shall sell to Purchaser, and Purchaser shall purchase from Seller, (a) ZERO and 00/100 (0.00) stream enhancement/restoration mitigation credits and ZERO and 00/100 (0.00) stream preservation mitigation credits (the "Stream Credits") and (b) SIX and 76/100 (6.76) freshwater wetland enhancement/restoration mitigation credit and ZERO and 00/100 (0.00) freshwater wetland preservation mitigation credits (the "Wetland Credits", and together with the Stream Credits, the "Credits") from the Bank based on the terms and conditions contained herein.

On the Closing Date, Seller shall provide Purchaser with an invoice for the Purchase Price (as defined in Section 4 below) and Purchaser shall remit payment within 14 days of receipt of such invoice. Upon receipt of such payment, Seller will file the documentation with the Corps necessary to transfer the Credits to Purchaser in accordance with Corps policies and procedures and the terms of this Agreement.

3. Fee for Out of Primary Service Area Credit Sales. Purchaser agrees to pay a fee (the "Adjacent 8-digit HUC") to compensate Seller for the incremental wetland acreage and stream linear footage that must be deducted from the Bank's ledger to compensate for use of the Bank's credits to compensate for the Permitted Project's unavoidable adverse impacts occurring outside the Service Area and outside the Bank's Watershed. The Adjacent 8-digit HUC

Fee shall be calculated as the sum of (a) 0.3976 Wetland Credit, which represents the functional acres of wetlands deducted from the Bank's ledger due to the Permitted Project's location outside the Bank's Watershed, multiplied by the per-wetland-credit price defined in Section 4 below, and (b) 0.0000 Stream Credit, which represents the functional linear feet of stream deducted from the Bank's ledger due to the Permitted Project's location outside the Bank's Watershed, multiplied by the per-stream-credit price defined in Section 4 below.

4. Purchase Price. The purchase price for the (a) Stream Credits shall be ZERO and 00/100 Dollars ($0.00) for each Stream Credit, for a total purchase price for the Stream Credits of ZERO and 00/100 ($0.00); (b) Wetland Credits shall be TWENTY THOUSAND and 00/100 Dollars ($20,000.00) for each Wetland Credit, for a total purchase price for the Wetland Credits of ONE HUNDRED THIRTY-FIVE THOUSAND TWO HUNDRED and 00/100 ($135,200.00); and, (c) Adjacent 8-digit HUC Fee of SEVEN THOUSAND NINE HUNDRED FIFTY-TWO and 00/100 ($7,952.00), for a grand total purchase price for the Stream Credits and the Wetland Credits of ONE HUNDRED FORTY-THREE THOUSAND ONE HUNDRED FIFTY-TWO and 00/100 ($143,152.00) (the "Purchase Price"). Upon payment of the Purchase Price in full, neither Purchaser, nor its successors, assignees or designees shall be liable for the payment to Seller of any other consideration or fee in connection with the sale of the Credits.

5. Feasibility Contingency. Commencing as of the Effective Date and continuing through 5:00 p.m. Central Daylight Time on October 8, 2020 ("Feasibility Period"), Buyer shall ensure that the use of Bank Credits from Seller at the Permitted Project is feasible due to the absence of credits available from a bank with a service area and watershed that encompass the Permitted Project ("Feasibility Contingency"). By the end of the Feasibility Period, Buyer shall either: (1) waive the Feasibility Contingency, thereupon the parties shall proceed to closing; or (2) not waive the Feasibility Contingency, thereupon this Agreement shall terminate and the Parties shall have no further rights or obligations under this Agreement.

6. Closing. The Closing of this Agreement shall occur on or before October 9, 2020 ("Closing Date").

7. Delivery of Credits. Within three business days of receiving the Purchase Price, Seller shall:

(a) notify the Corps of the completion of the sale using such documentation as required by the Corps, with a copy delivered to Purchaser; and

(b) deliver to Purchaser a bill of sale for the Credits in substantially the same form as Exhibit B attached hereto.

8. Representations, Warranties and Covenants. Seller hereby warrants and represents to, and covenants with, Purchaser as follows:

(c) Seller expressly represents, warrants, and covenants the matters set forth as Recitals A and B.

(d) Seller has a sufficient number of credits in the Bank to consummate the transactions contemplated herein.

(e) Seller has full power and authority to convey the Credits to Purchaser and to consummate the transactions contemplated herein.

(f) Seller shall deliver the Credits to Purchaser free and clear of any liens, security interests or other encumbrances.

(g) There is no pending or threatened action or proceeding affecting Seller before any court, governmental agency, or arbitrator that would adversely affect Seller's ability to comply with its obligations hereunder.

(h) Seller hereby covenants and agrees with Purchaser that Seller shall not sell any number of credits in the Bank that would prevent the consummation of the transactions contemplated herein.

(i) Seller shall be solely responsible, at its sole cost and expense, for compliance with the requirements of this Agreement and with all statutes, regulations, and other requirements applicable to the operation, management, and maintenance of the Bank.

(j) That the execution and delivery of this Agreement on behalf of Seller has been duly authorized and such execution and delivery shall constitute the valid and binding agreement of Seller and is enforceable in accordance with its terms.

(k) All of Seller's representations, warranties, and covenants herein shall survive the termination of this Agreement and the delivery of the bill or bills of sale pursuant to this Agreement.

9. Miscellaneous

(a) Notices. Any notice, demand or request which is required or permitted hereunder shall be deemed effective when hand delivered, sent by a receipted overnight delivery service, sent by electronic mail, or mailed, via certified mail, to the following addresses:

Seller: Mill Creek Mitigation Holdings LLC
Attn: Charlie Thompson
3414 Peachtree Road NE, STE 990
Atlanta, Georgia 30326
Email: thompson@ecocapitaladvisors.com

With a copy to:

The Lyme Timber Company LP
Attn: David Hoffer
23 South Main Street, 3rd Floor
Hanover, NH 03755
Email: dhoffer@lymetimber.com

Purchaser: Weyerhaeuser NR Company
ATTN: Doug Hughes
406 Cole Road
Hattiesburg, MS 39402
doug.hughes@weyerhaeuser.com

The parties may change the address for notices by delivery of a change of address to the other party in accordance with the requirements set forth above.

(b) Brokerage Commission. Seller and Purchaser each warrant to the other that no broker, agent, salesman or similar person is entitled to a commission or other fee in connection with this transaction. In the event any claims arise for commissions, fees, or other compensation in connection with this transaction, the party causing such claims or through whom such claims are made shall indemnify, defend, and hold harmless the other party for any loss or damage incurred by such party because of such claim. The foregoing indemnification shall survive the cancellation, termination or consummation of this Agreement.

(c) Entire Agreement; Modification. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and neither Party shall be bound by representations except as set forth in this Agreement. There are no other agreements or understandings, written or oral, between the parties with regard to the subject matter of this Agreement. This Agreement shall not be modified or amended except by a written document executed by both parties.

(d) Governing Law. The validity, interpretation, and performance of this Agreement shall be governed by and construed in accordance with the laws of the State of South

Carolina, with the proper venue being Richland County, except to the extent that any applicable federal law or regulation shall supersede South Carolina law in relation to the matters set forth in this Agreement.

(e) Compliance with Applicable Laws. Both parties shall comply with all applicable federal, state, and local laws, rules, regulations, and orders in the conduct of their obligations hereunder.

(f) Severability. The provisions of this Agreement shall be deemed severable and, if any term herein shall be held invalid, illegal, or unenforceable, the remainder of this Agreement shall continue to be effective and binding on the parties.

(g) Additional Assurances. Both of the parties agree to execute and deliver any other document or documents that may be requested from time to time by the other party necessary to perform such party's obligations under this Agreement.

(h) Attorney's Fees. If legal action is commenced by either party to enforce its rights under this Agreement, the substantially prevailing party in such action shall be entitled to recover reasonable costs incurred by it, including, but not limited to, reasonable attorneys' fees and costs, in addition to any other relief granted.

(i) Nature of Credits. The sale and conveyance of the Credits pursuant to this Agreement shall not constitute the conveyance or transfer of any right, interest, or ownership of real property or the Bank, nor shall such conveyance impose upon Purchaser any obligation, duty, or liability arising from or incident to ownership of an interest in real property.

(k) Assignability. Neither party hereto may assign its rights and obligations hereunder to any third-party entity without the prior written consent of the other, which may be withheld in the other party’s sole discretion.

(l) Counterparts. This Agreement may be executed in counterparts, each of which shall constitute an original, and all of which shall together constitute one and the same Agreement. Signed signature pages may be transmitted by facsimile or email and any such signature or electronic signature shall have the same legal effect as an original.

(m) Confidentiality. Purchaser and Seller agree to maintain, in strictest confidence, the terms of this Agreement and any and all communications between the parties. This Section shall not apply to any information which: (i) was known to receiving party prior to it being disclosed to such party hereunder and can be so demonstrated by written documentation; (ii) was in the public domain by publication when received by receiving party or later came into

the public domain by publication through no fault of receiving party; (iii) was disclosed to receiving party, free of confidentiality obligations, by a third party who (to the knowledge of receiving party) is not under obligations of secrecy concerning the information and/or materials; or (iv) was independently developed by receiving party without reference to the information. In the event legal process requires or requests disclosure by receiving party, its agents, representatives and/or employees of any of the information, if legally permissible to do so, receiving party shall give prompt notice of such process immediately to the other party so that the other party may either seek an appropriate protective order and/or waive compliance by receiving party with the provisions of this Section.

WITNESS the following authorized signatures:

SELLER: MILL CREEK MITIGATION HOLDINGS LLC

By: _____

Printed:

Its:

PURCHASER: WEYERHAEUSER NR COMPANY

By: _____

Printed:

Its:

EXHIBIT A

[Attach map of Service Area]

EXHIBIT B

BILL OF SALE

THIS BILL OF SALE is made as of the _____ day of _____, 2020, by MILL CREEK MITIGATION HOLDINGS LLC, a Delaware limited liability company ("Seller"), and _____ ("Purchaser").

Seller and Purchaser have entered into that certain Agreement for Purchase and Sale of Stream and Wetland Mitigation Credits dated _____, 2020 (the "Agreement"), the terms of which are incorporated herein by reference and made a part hereof, with respect to the sale by Seller and the purchase by Purchaser of Stream Credits and Wetland Credits (each as defined in the Agreement) held in Seller's Mill Creek Mitigation Bank, Richland County, South Carolina.

In consideration of the Purchase Price (as defined in the Agreement) and other good and valuable consideration, the receipt and sufficiency of which are mutually acknowledged, Seller hereby sells, transfers, assigns, conveys, delivers, and sets over to Purchaser, its successors, or assigns, _____ and ___/100 Stream Credits and _____ and ___/100 Wetland Credits, to have and hold all such Stream Credits and Wetland Credits, forever. Witness the following authorized signature:

Mill Creek Mitigation Holdings LLC

By: _____

Printed:

Its:

RICHLAND COUNTY ADMINISTRATION
2020 Hampton Street, Suite 4069
Columbia, SC 29204
803-576-2050

Agenda Briefing

Prepared by: Michael Niermeier, Director
Department: Transportation
Date Prepared: September 14, 2020 **Meeting Date:** September 22, 2020

Legal Review		**Date:**	
Budget Review	James Hayes via email	**Date:**	September 15, 2020
Finance Review	Stacey Hamm via email	**Date:**	September 15, 2020
Approved for consideration:	Assistant County Administrator	John M. Thompson, Ph.D., MBA, CPM	

Committee Subject: An Ordinance Authorizing Deed to the City of Columbia for 0.509 Acres, Known as S/S Candi Lane (TMS#07208-03-01/02; Three Rivers Greenway Project

Recommended Action:

Staff recommends the Committee concur with the Petition from the City of Columbia for annexation of the subject property from Richland County to the City of Columbia as part of the Three Rivers Greenway/ Saluda Riverwalk Project.

Motion Requested:

1. Move to approve the requested petition for first reading; or,
2. Move to deny the requested petition for first reading.

Request for Council Reconsideration: ☐Yes

Fiscal Impact:

There is no associated fiscal impact.

Motion of Origin:

There is no associated Council motion of origin.

Council Member	
Meeting	
Date	

Discussion:

County parcels TMS#07208-03-01 and TMS#07208-03-02 are two small parcels acquired by the County in 2016 known as the "Boozer Properties" for $40,000 to secure property needed to complete Three Rivers Greenway Phase 1A.

Attachments:

1. Stamped petition for annexation
2. Assessor data and graphics

STATE OF SOUTH CAROLINA)
)
COUNTY OF RICHLAND)

PETITION FOR ANNEXATION

The undersigned, being the owner(s) of the property described below hereby petition(s) the Mayor and City Council for annexation to the City of Columbia, South Carolina pursuant to S.C. Code Ann. Section 5-3-150, 1976, as amended.

Property Description: All that certain piece, parcel or lot of land, with any improvements thereon, situate, lying and being near the City of Columbia, in Richland County, State of South Carolina, being shown and delineated as T.M.S. 07208-03-02 on a Plat entitled "Plat of Richland County T.M.S. 07208-03-01 & 07208-03-02 Prepared for Richland County & Three Rivers Greenway – Saluda Riverwalk", prepared by HGBD Surveyors, LLC, dated June 7, 2016, revised July 7, 2016, and recorded in Book 2138 Page 3374; said parcel having the following metes and bounds to wit:

Commencing at a mag nail located at the centerline intersection of Candi Lane (S.C. Hwy. No 5-2889) and Greystone Boulevard (S.C. Hwy. No. 5-3020); thence proceeding in a direction of NORTH 62°50'55" WEST for a distance of 3,079.49' to a 5/8" rebar located along the southern right-of-way of Candi Lane (S.C. Hwy. No. 5-2889), being the point of beginning; thence turning and proceeding in a direction of SOUTH 13°42'30" WEST along the property of Saluda River Partners for a distance of 316.38' to a computed point; thence turning and proceeding in a direction of NORTH 52°34'39" WEST along the northern bank of the Saluda River for a distance of 29.64' to a computed point; thence turning and proceeding in a direction of NORTH 01°13'26" WEST along the property of Sylvia B. Brannon, Stanford W. Boozer, Jr., Ronald F. Boozer, Barbara B. Mann & Gloria B. Baker, as Trustees (T.M.S. 07208-03-01) for a distance of 341.26' to a 5/8" rebar; thence turning and proceeding along the southern right-of-way of Candi Lane (S.C. Hwy No. 5-2889) for the following courses and distances: along a curve to the right in a direction of SOUTH 64°02'48" EAST SOUTH 64°02'48" EAST for a chord distance of 49.57' (said curve having a radius of 5,707.13') to a 5/8" rebar; thence in a direction of SOUTH 63°47'52" EAST for a distance of 68.25' to a 5/8" rebar, this being the point of beginning.

This parcel contains 0.509 acre / 22,163 square feet.

Richland County TMS: 07208-03-02
Property Address: 0.509 acre S/S Candi Lane

Richland County

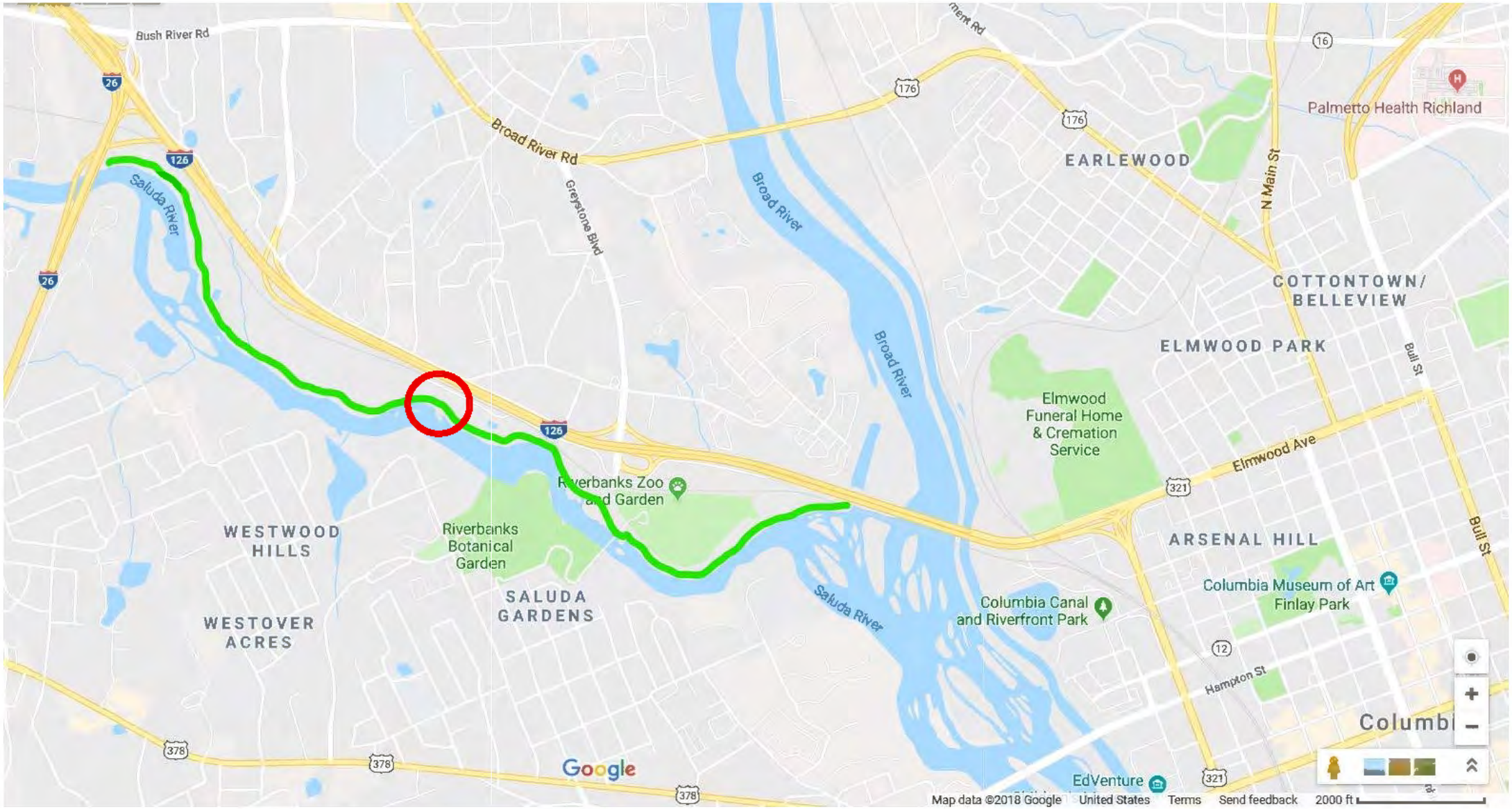
BY: _____ Date: _____
Paul Livingston

ITS: Chairman, County Council

Richland County Attorney's Office
Approved As To LEGAL Form Only.
No Opinion Rendered As To Content.


720
710
710
355
357
357
357
351
362
Saluda River Ro
305
305
301
700
Candi Lane
TMS 07208-03-01
TMS 07208-03-02
680
650
60m

Completed Portion of Three Rivers Greenway, aka “Saluda Riverwalk”, Section 1A



RICHLAND COUNTY ADMINISTRATION
2020 Hampton Street, Suite 4069
Columbia, SC 29204
803-576-2050

Agenda Briefing

Prepared by: Michael Niermeier, Director
Department: Transportation
Date Prepared: September 09, 2020 **Meeting Date:** September 22, 2020

Legal Review	Elizabeth McLean via email	**Date:**	September 16, 2020
Budget Review	James Hayes via email	**Date:**	September 17, 2020
Finance Review	Stacey Hamm via email	**Date:**	September 17, 2020
Approved for Consideration:	Assistant County Administrator	John M. Thompson, Ph.D., MBA, CPM	
Committee Subject:	Transportation Department Organization Change		

Recommended Action:

Staff respectfully requests approval of the proposed organization chart (Attachment 1) which adds a Finance Manager- Transportation position to the department.

Motion Requested:

Move to approve the Transportation Department Organization Chart in Attachment 1.

Request for Council Reconsideration: ☑Yes

Fiscal Impact:

The new Finance Manager- Transportation position was budgeted in FY21 and will have an estimated cost of $86,138.

Motion of Origin:

There is no associated Council motion of origin.

Council Member	
Meeting	
Date	

Discussion:

On May 6, 2020, the Transportation Department submitted a draft Transportation Department Transformation document to Administration for review and comment. The purpose of the document was to evolve the organization and resources to better fit the needs of the Program based on a year of learning and development. The immediate need, as requested in this BD, is a Finance Manager-Transportation to provide expertise and leadership in that critical area. This position will work directly for the Director.

Attachments:

1. Proposed Organization Chart
2. March 2019, Council approved organization

Attachment 1

Appendix A: Proposed Organizational Chart for the Department of Transportation