

August 28, 2024

Mr. Jeffrey V. Lord  
 Town Administrator  
 Town of Moncks Corner  
 118 Carolina Avenue  
 Moncks Corner, SC 29461

**Task Order 1 – California Branch Flood Mitigation Study  
 On-Call Professional Services**

Dear Mr. Lord,

Seamon, Whiteside & Associates, Inc. (“SW+”) is pleased to offer a proposal for professional engineering services to complete a flood mitigation study of California Branch (see Figure 1). This scope includes tasks needed to complete site surveying and assessment, existing conditions hydrologic and hydraulic analysis, alternative conditions analysis, and project recommendations. California Branch has been identified by SW+ as the reach from the Tailrace canal (downstream) to approximately 200 feet upstream of Whitesville Road (upstream).

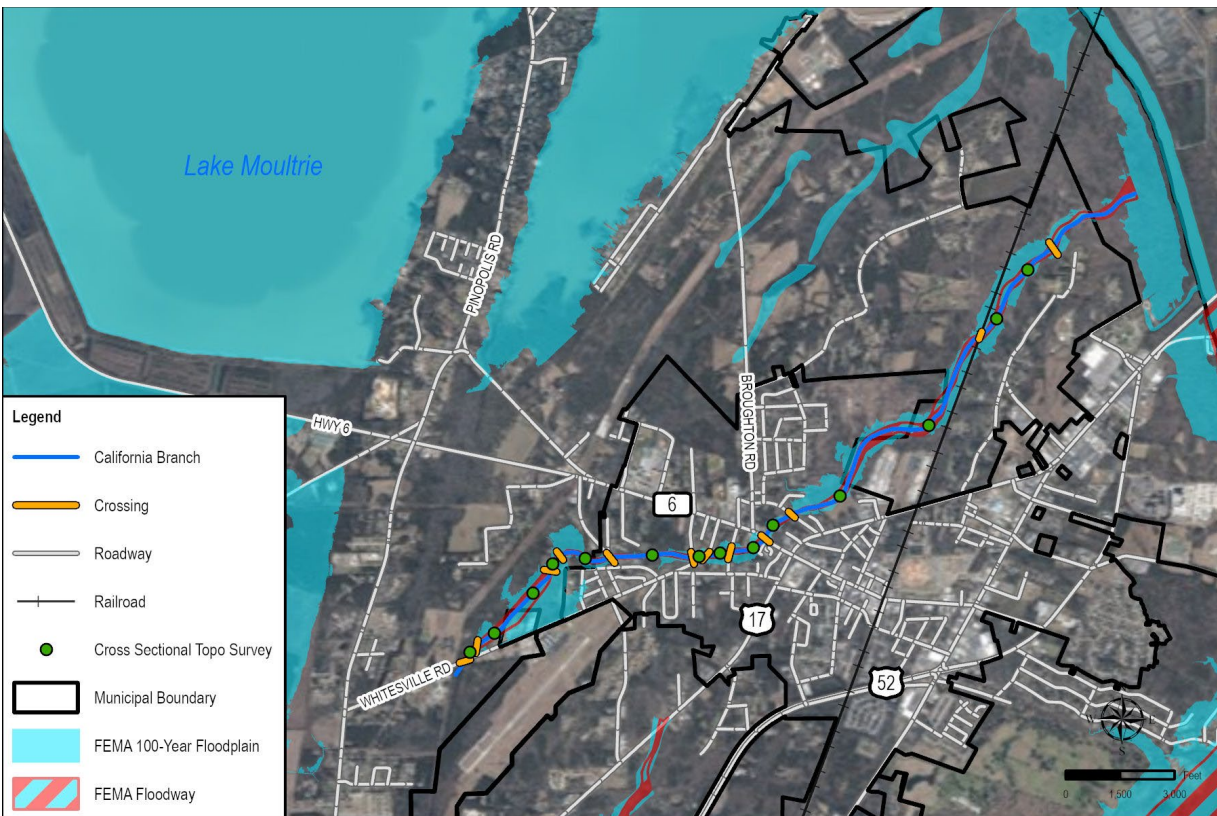


Figure 1 – Site with study limits.

501 Wando Park Boulevard, Suite 200, Mount Pleasant, SC 29464 | (843) 884-1667  
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## Scope of Services

### Division One: Project Meetings and Stakeholder Coordination

We understand the project will require regular progress meetings with the Client, as well as coordination and meetings with applicable project stakeholders. As a result, our services for this division will include the following:

1. Facilitate a kick-off meeting with Client to discuss project goals and constraints.
2. Attend and lead progress meetings with the Client throughout the project duration. It is assumed there will be up to four 1-hour progress meetings to discuss the project.
3. Attend and assist Client with meetings to discuss project with applicable stakeholders (e.g., Santee Cooper, Berkeley County, CSX, and private property owners).

### Division Two: Survey, Field Investigations, and Data Gathering

1. Collect as-built survey data of approximately 12 structures (e.g., bridges, culverts, etc.) including as needed:
  - a. Culvert diameter and invert elevations
  - b. Top of roadway centerline
  - c. Culvert or bridge crest length and total width
  - d. Bridge high and low chord elevations
  - e. Pier dimensions and locations
2. Collect topographic cross section surveys along California Branch at approximately 14 locations (see Figure 1) to determine typical cross-sectional geometry of the study reach. Parameters of the cross-section to include:
  - a. Thalweg/stream centerline
  - b. Top of bank to top of bank topographic data
3. Complete limited GPS survey of stormwater/drainage/channel connections where California Branch discharges to the Tailrace Canal near Swig and Swine.
4. Complete up to two (2) site visits to walk the length of California Branch (approximately 4.7 miles) to photo document conditions of the channel and crossings and check for major obstructions/debris.
5. Collect existing FEMA models, FEMA flood mapping, USDA soils data, land cover mapping, parcel data, and other publicly available data to assist in completion of the flood mitigation study (e.g., Berkeley County LiDAR, radar rainfall, proposed crossing plans, water level data in Tailrace canal, etc.).

### Division Three: Existing Conditions Hydrologic and Hydraulic Analysis

1. Complete a watershed assessment to delineate watersheds contributing flow to California branch and estimate associated hydrologic parameters (e.g., curve numbers, times of concentration, etc.).
2. Prepare a hydrologic model to simulate rainfall-runoff conditions for watersheds along California branch using HEC-HMS.
3. Prepare a combined 1D/2D hydraulic model of California Branch using inputs from Division One and inflows from the hydrologic model. The intent of the 1D/2D hydraulic model will be to simulate flood conditions (e.g., peak water surface elevations and maximum extents of flood) based on varying rainfall-runoff conditions.
4. Run the hydrologic and hydraulic models for various design rainfall conditions (e.g., 1- through 100-year rainfall event). Peak discharge values for the design storm events will be evaluated against peak flows estimated from regional regression equations developed by the United States Geological Survey (USGS) and the watershed area contributing to the site. In

In addition to design events, one validation event (e.g., Hurricane Debby) will be run based on available historical data. The validation event will be used to adjust hydrologic and hydraulic modeling parameters such that the model is considered representative of existing flood conditions.

5. Prepare GIS mapping and exhibits documenting results of the existing conditions hydrologic and hydraulic analysis.

#### **Division Four: Alternatives Analysis**

Alternatives/proposed improvements will be investigated using the hydrologic and hydraulic models developed as part of Division Two. The alternatives analysis will include the following tasks:

1. Investigate potential improvements to reduce flood durations, flood extents, and maximum flood depths. Improvements may include but may not be limited to:
  - a. Incorporation of proposed culvert and bridge replacements currently in design.
  - b. Upsizing existing culverts and bridges within the study reach not currently in design.
  - c. Diversions and/or alternative outlets through the levee system along the Tailrace Canal.
  - d. Creation of floodplain storage.
  - e. Channel re-alignment and widening.
2. Evaluate the need for project partnerships with Berkeley County, private property owners, CSX, and Santee Cooper where proposed alternatives may be needed outside of the town's jurisdiction.
3. Evaluate potential impacts to natural resources and identify permitting constraints for proposed alternatives.
4. Prepare GIS mapping and exhibits to document results of the alternatives analysis.

#### **Division Five: Project Recommendations and Reporting**

Upon completion of all tasks, a report/capital improvement plan detailing the process and results of the study will be delivered with any supporting data. This final report will serve as a foundation for the town to move forward with pursuit of project funding, engineering design, permitting, and construction of recommendations. Specific tasks associated with project recommendations and reporting include:

1. Prepare opinions of implementation costs for selected/preferred alternatives to include engineering and design, permitting, construction, and construction administration.
2. Determine ranking/priority of recommendations based on a diverse set of metrics (e.g., flood reduction, cost, town goals, etc.).
3. Evaluate and propose funding opportunities to implement recommendations.
4. Prepare an engineering report (including supporting appendices) to document the flood mitigation study and recommendations for improvements.
5. Submit draft report to Client for review.
6. Address comments from Client and re-submit final report and recommendations.

#### **Notes:**

1. *3D modeling and/or renderings (for submittal or marketing purposes) are not included in this proposal.*
2. *Civil engineering, landscape architecture, and stormwater design and permitting services are not included in this scope of services.*

3. *Opinions of probable costs that are prepared by SW+ shall be based on experience and qualifications and represent its best judgment familiar with the construction industry but shall not be a guarantee that construction costs will not vary from its opinions of probable cost.*
4. *SW+ recognizes that design refinement and problem solving are iterative processes. However, it must also be recognized that excessive and continuous design changes are impossible to accurately quantify and are, therefore, outside of the scope of this proposal. We understand that a design will evolve during the submittal and review processes, and we do intend for these types of adjustments to be included. However, extensive and continuous design changes that are beyond the scope of those typical for a project of similar size and complexity will be charged as additional services on an hourly rate basis.*

**Fees:**

We will provide the indicated services for the following fees:

Division One: Project Meetings and Stakeholder Coordination .....	\$10,000 (Hourly Estimated Fee)
Division Two: Survey, Field Investigations, and Data Gathering .....	\$27,300 (Lump Sum)
Division Three: Existing Conditions Hydrologic and Hydraulic Analysis.....	\$30,200 (Lump Sum)
Division Four: Alternatives Analysis.....	\$25,000 (Lump Sum)
Division Five: Project Recommendations and Reporting .....	\$17,500 (Lump Sum)

Hourly rate services and/or additional services shall be invoiced according to the table below:

SW+ current hourly rates are as follows (see note below):

Principal in Charge.....	\$275.00
Managing Principal.....	\$250.00
Professional Support.....	\$100.00
Administrative Support.....	\$80.00
<u>Landscape Architecture</u>	
Director.....	\$210.00
Senior Landscape Architecture Team Leader/Practice Leader 2.....	\$200.00
Landscape Architecture Team Leader/Practice Leader 1.....	\$190.00
Senior Landscape Architecture Project Manager 3/Senior Land Planner 3.....	\$190.00
Senior Landscape Architecture Project Manager 2/Senior Land Planner 2.....	\$180.00
Senior Landscape Architecture Project Manager 1/Senior Land Planner 1.....	\$175.00
Landscape Architecture Project Manager/Land Planner 5.....	\$170.00
Landscape Architecture Project Coordinator/Land Planner 4.....	\$165.00
Land Planner 3.....	\$160.00
Land Planner 2.....	\$150.00
Land Planner 1.....	\$140.00
<u>Civil Engineering</u>	
Director.....	\$210.00
Senior Civil Engineering Team Leader/Practice Leader 2.....	\$200.00
Civil Engineering Team Leader/Practice Leader 1.....	\$190.00
Senior Civil Engineering Project Manager 3/Senior Designer 3.....	\$190.00
Senior Civil Engineering Project Manager 2/Senior Designer 2.....	\$180.00
Senior Civil Engineering Project Manager 1/Senior Designer 1.....	\$175.00
Civil Engineering Project Manager/Civil Designer 5.....	\$170.00
Civil Engineering Project Coordinator/Civil Designer 4.....	\$165.00
Civil Designer 3.....	\$160.00
Civil Designer 2.....	\$155.00
Civil Designer 1.....	\$145.00
Senior CAD Technician.....	\$150.00
CAD Technician 4.....	\$140.00
CAD Technician 3.....	\$130.00
CAD Technician 2.....	\$120.00

CAD Technician 1 .....	\$110.00
<u>Construction Administration</u>	
Director .....	\$210.00
Construction Administration Team Leader .....	\$190.00
Senior Construction Administration Project Manager .....	\$175.00
Construction Administration Project Manager .....	\$170.00
Construction Administration Project Coordinator .....	\$165.00
Construction Administration Field Representative 2 .....	\$150.00
Construction Administration Field Representative 1 .....	\$140.00
Entitlements Manager .....	\$140.00
Permitting Coordinator .....	\$130.00
<u>Surveying</u>	
Director .....	\$200.00
Surveying Team Leader .....	\$190.00
Surveying Crew Chief .....	\$120.00
3 Man Survey Crew .....	\$240.00
2 Man Survey Crew .....	\$180.00
CAD Technician 4 .....	\$140.00
CAD Technician 3 .....	\$130.00
CAD Technician 2 .....	\$120.00
CAD Technician 1 .....	\$110.00

**Note: Hourly rates are subject to change October 1 of each year. Hourly rates to be invoiced shall be those in effect at the time services are provided.**

Office reimbursable expenses will be billed at the rates listed in the table below plus a 10% handling fee:

Mileage outside of the local area .....	\$0.67 per mile
<i>(Local area is defined as the metropolitan area of the originating office of the proposal)</i>	
Printing of construction and project drawings (\$0.40 per sq ft)	
24 x 36 .....	\$2.40 each
30 x 42 .....	\$3.50 each
36 x 48 .....	\$4.80 each
Color inkjet plotting (\$8.00 per sq ft)	
24 x 36 .....	\$48.00 each
30 x 42 .....	\$70.00 each
36 x 48 .....	\$96.00 each
Black and white inkjet plotting (\$2.00 per sq ft)	
24 x 36 .....	\$12.00 each

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30 x 42 .....	\$17.50 each
36 x 48 .....	\$24.00 each
Black and white Xerox copies	
8½ x 11 .....	\$0.20 each
8½ x 14 .....	\$0.25 each
11 x 17 .....	\$0.35 each
Color Xerox copies	
8½ x 11 .....	\$1.00 each
8½ x 14 .....	\$2.75 each
11 x 17 .....	\$3.50 each

When an estimated fee range is indicated, this estimate was made based on current understanding of project scope and/or construction duration. If it becomes apparent that this estimate will be exceeded, we will notify Client in advance of reaching the upper limit of the indicated range.

Other project related reimbursable expenses, such as but not restricted to postage, long distance telephone calls, travel expenses, courier fees, and agency permitting fees will be billed at actual cost plus a 10% handling fee. Fees for outside subconsultants will be billed at actual cost plus a 15% handling fee. Fees and reimbursable expenses will be invoiced every 4 weeks.

Should you find this Task Order acceptable, as governed by the On Call Agreement between SW+ and the Town of Moncks Corner, please confirm by signing in the space provided below and return one executed original to our office. We look forward to working with you on this project.

Should you have any questions or need additional information, please call our office.

SEAMON, WHITESIDE & ASSOCIATES, INC.



Jason Munday PE  
Vice President

Accepted By:

Please Provide Billing Contact  
Email address:

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Signature and Title