

**Attachment A – Scope of Services for ST-258C
Contract Administration and Construction Inspections for the
Angier-Driver Streetscape Improvement Project**

The scope of work includes, but is not necessarily limited to, the following tasks;

- 1) **Contract Administration**- The consultant shall utilize the City’s Oracle/Primavera centric contract management and scheduling software to administer all aspects of the construction contract between the City and Fred Smith Company, including but not limited to, the following work elements:
 - a. **Requests for Information(RFI)** – All RFI’s will be submitted, reviewed and responded to by the consultant through the workflow in Oracle/Primavera Contract Manager (CM).
 - b. **Shop Drawing Submittals** – The consultant shall preload CM with a list of all of the shop drawings required for the project so that the contractor and consultant have a checklist for all of the required submittals. The consultant shall subsequently manage the shop drawings submittals (from the contractor) and reviews through the CM work flow processes. The consultant shall insure that the shop drawing submittals are reviewed a timely manner in accordance with the construction documents and all relevant specifications.
 - c. **Progress Meetings** – The consultant shall hold weekly progress meeting with the contractor and City staff. The meeting agendas and content will be managed in CM.
 - d. **Construction Observation and Inspection** – The consultant shall have a construction inspector onsite daily. The amount of time the inspector will need to be onsite will be dependent on the work being performed and weather conditions. On rainy days, as a minimum, the inspector will need to observe the performance of the erosion control devices. During warm dry weather the inspector may need to be onsite all day long; his(her) responsibility will be to observe and document all construction for subsequent certification that it meets NCDOT and City Standards, as well as approval of daily reports for payment quantities entered by the contractor (discussed below). The inspector will be responsible for summarizing the activities observed during the day in a CM daily report.
 - e. **Daily Reports** – The consultant shall be responsible for verification and approval of payment quantities in the Primavera Daily Report Extender (PDRX) daily reports submitted by the contractor. The consultant shall monitor the installed quantities daily and alert City staff immediately of any quantities in excess projected to be of the estimates.
 - f. **Payment Requisitions** - The consultant shall be responsible for the month-end process of approving final quantities for payment, making adjustments to the previously approved daily reports as needed, and creating the monthly payment requisitions in CM.
 - g. **Punch lists** - The consultant shall create punch lists as necessary in CM for remedial work which needs to be performed by the contractor. The consultant shall monitor and report the contractor’s progress in completing punch list items.
 - h. **Job Site and Work Zone Safety** – The construction inspector(s) onsite shall fully comply with the certification requirements of the “North Carolina Department of Transportation’s Implementation of the FHWA Final Rule on Safety & Mobility 23 CFR 630 Subparts J & K”. The inspectors will have the authority as an agent of the City to issue a stop work order whenever unsafe conditions are observed.
 - i. **Conformance with NCDOT Encroachment Agreements** – The consultant is responsible to insure that the work being performed is in accordance with the approved NCDOT encroachment agreements at all times.

- j. **Review and Approval of As-Built Submittals** – The contractor, as specified in the project manual and construction documents, is required to comply with Section 4 of the City’s reference Guide for Development with respect to as-built drawing and data requirements. The consultant shall be responsible for approving the as-built submittals by the contractor and insuring that they are in compliance with the City’s requirements.
- 2) **Project Management and Scheduling**
- a. **Contractor’s Obligation** - The contractor is responsible to create a comprehensive project construction schedule using the City’s Oracle/Primavera P6 system. The contractor is expected to update the schedule as need be during the course of the project; some of the updates are performed automatically for the contractor through the PDRX software.
 - b. **Consultant’s Obligation** - The consultant is responsible to ensure the contractor’s schedule is routinely updated and reflects the most recent field conditions and work performed.
 - c. **Weekly Status Reports** - The consultant shall prepare a weekly status report in Microsoft Word that summarizes the work performed, issues encountered and resolutions, budget, status of pay item estimates and quantities, accidents, etc.
- 3) **Construction Materials Testing and Certifications**
- a. The consultant shall provide all of the testing and the certification required to meet NCDOT standards on the portion of the project constructed on Angier Avenue (a NCDOT maintained street) and elsewhere on the project. The testing and certifications services provided will, as a minimum, address the specific requirements of the encroachment agreement listed below:
 - i. All fill areas/backfill shall be compacted to 95% density in accordance with AASHTO T99 as modified by the NCDOT. All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method.
 - ii. All materials and workmanship shall conform to the N. C. Department of Transportation's Standards and Specifications Manuals.
 - iii. Certify that the pavement installed satisfies the design approved by NCDOT. Test frequency and method shall be in conformance with the NCDOT "Materials and Tests" Manual. Tests must be performed in accordance with QMS for Asphalt Pavement (Maintenance Version) requirements. QMS form MV2 shall be submitted to the District Engineer's office after paving is complete. QMS form MV I must be completed and returned to the District Engineer's office prior to the placement of any asphalt.
 - iv. A certified pavement structure report signed by a professional engineer, shall be submitted to the NCDOT District Engineer's office at 815 Stadium Drive, Durham, NC 27704 indicating the following:
 - 1. Pavement thickness by type and density
 - 2. Base thickness
 - 3. Base density
 - 4. Subgrade density
 - 5. Core and/or test locations

- v. The construction engineering, inspection, and supervision furnished by the consultant shall be adequate to ensure sampling, testing, inspection, quality control, etc. is performed to NCDOT's satisfaction. The consultant must be on the NCDOT's preapproved consultants list.
 - vi. The consultant shall furnish to the District Engineer's office verification signed and sealed by a professional engineer certifying that construction meets NCDOT design requirements. Test frequency and method shall be in conformance with the NCDOT "Materials and Tests" Manual.
- 4) **Construction Drawing Interpretation and Design Services**
- a. **Construction Drawing Interpretation** – The consultant shall have a professional engineer, experienced in the design and construction of streetscape elements, on staff to assist with the interpretation of the intent of the construction drawings, if and when it becomes evident that there is an ambiguity, a conflict, or an error or omission; there may be other circumstances that necessitate analysis and interpretation.
 - b. **Design Services** – The consultant shall have a professional engineer and support staff, experienced in the design and construction of streetscape elements, on call to prepare changes to the construction drawings when interpretation, described above, is insufficient to resolve an ambiguity, a conflict, or an error or omission. The staff available shall consist of but not be limited to, registered professional engineer, registered landscape architect, registered professional land surveyor and technicians.
- 5) **Proposed Fee Estimate**
- a. The fee basis will be standard hourly rates for the staff from each of the firms, namely:
 - i. BREE Associates, Inc.
 - ii. Horvath Associates, Inc.
 - iii. Spaulding and Norris, PA
 - iv. ATC Associates of North Carolina, PA
- The fees from ATS Associates will include standard laboratory tests.
- b. The proposed fee summary for each of the tasks in the scope of services is shown in the table on the next page.

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**Contract Administration and Construction Inspections
Services for the Angier-Driver Streetscape Project (ST-258C)
Proposed Fee Estimate and Breakdown by Task**

	Target Percent of Fee	Proposed Percent of Fee	Fee Estimate
Contract Administration (BREE/Horvath)			
Requests for Information	0.50%	1.54%	\$ 5,400.00
Shop Drawing Submittals	1.25%	2.50%	\$ 8,775.00
Progress Meetings	5.00%	5.27%	\$ 18,450.00
Construction Observation and Inspection	65.00%	54.19%	\$ 189,830.00
Daily Reports	2.00%	3.21%	\$ 11,250.00
Payment Requisitions	0.50%	2.23%	\$ 7,800.00
Punch lists	1.00%	1.93%	\$ 6,750.00
Job Site and Work Zone Safety	2.00%	2.57%	\$ 9,000.00
Conformance with NCDOT Encroachment Agreements	0.25%	0.86%	\$ 3,000.00
Review and Approval of As-Built Submittals		1.54%	\$ 5,400.00
Sub-total Contract Admin and Inspections	77.50%	75.84%	\$ 265,655.00
Project Management and Scheduling (BREE)			
Contractors Obligation	0.00%	0.00%	\$ -
Consultant's Obligation	0.50%	0.21%	\$ 750.00
Weekly Status Reports	2.00%	1.93%	\$ 6,750.00
Sub-total Contract Project Management	2.50%	2.14%	\$ 7,500.00
Construction Materials Testing and Certifications (ATC & SN)			
	15.00%		
Soil			\$ 22,985.00
Concrete			\$ 12,625.00
Asphalt			\$ 11,395.00
Liquid/Plastic Limits			\$ 450.00
Standard Proctor			\$ 1,200.00
Concrete Cylinders			\$ 550.00
Reserves - Not Tested			\$ 95.00
Nuclear Density			\$ 3,700.00
NCDOT Certification			\$ 7,000.00
Sub-total Construction Materials Testing and Certifications	15.00%	17.13%	\$ 60,000.00
Construction Drawing Interpretation and Design Services (Horvath)			
Construction Drawing Interpretation	2.00%	1.97%	\$ 6,885.00
Design Services	3.00%	2.93%	\$ 10,260.00
Sub-total Design Services	5.00%	4.89%	\$ 17,145.00
Percentage Sum	100.00%	100.00%	
Base Total Fee Proposed for the Project =			\$ 350,300.00
Contingency Fee Proposed for the Project =			\$ 57,900.00
			\$ 408,200.00

c. The hourly work estimate breakdown by task, by firm and staff person with the fee estimate is shown for each of the three firms in the tables which follow.

i. BREE Associates, Inc.

Contract Administration and Construction Inspections			
Services for the Angier-Driver Streetscape Project (ST-258C)			
Proposed Fee Estimate and Breakdown by Task			
		BREE Associates	
		Estimated Man-Hours	
		Field	Project
		Manager	Manager
		\$75/hr	\$150/hr
		Fee	
		Estimate	
Contract Administration (BREE/Horvath)			
Requests for Information			
Shop Drawing Submittals			
Progress Meetings	150	48	\$ 18,450
Construction Observation and Inspection	2,313	40	\$ 179,438
Daily Reports	150		\$ 11,250
Payment Requisitions	24	40	\$ 7,800
Punch lists	40	25	\$ 6,750
Job Site and Work Zone Safety	120		\$ 9,000
Conformance with NCDOT Encroachment Agreements	40		\$ 3,000
Review and Approval of As-Built Submittals			
Sub-total Contract Admin and Inspections		2,837	153 \$ 235,688
Project Management and Scheduling (BREE)			
Contractors Obligation			
Consultant's Obligation		5	\$ 750
Weekly Status Reports		45	\$ 6,750
Sub-total Contract Project Management			50 \$ 7,500

ii. Horvath Associates, Inc.

Contract Administration and Construction Inspections			
Services for the Angier-Driver Streetscape Project (ST-258C)			
Proposed Fee Estimate and Breakdown by Task			
		Horvath Associates	
		Estimated Man-Hours	
		Engineer	Architect
		\$135/hr	\$125/hr
		Fee	
		Estimate	
Contract Administration (BREE/Horvath)			
Requests for Information		40	\$ 5,400.00
Shop Drawing Submittals		65	\$ 8,775.00
Progress Meetings			
Construction Observation and Inspection	40	40	\$ 10,400.00
Daily Reports			
Payment Requisitions			
Punch lists			\$ -
Job Site and Work Zone Safety			
Conformance with NCDOT Encroachment Agreements			
Review and Approval of As-Built Submittals	40		\$ 5,400.00
Sub-total Contract Admin and Inspections		185	40 \$ 29,975.00
Construction Drawing Interpretation and Design Services (Horvath)			
Construction Drawing Interpretation		51	\$ 6,885.00
Design Services		76	\$ 10,260.00
Sub-total Design Services			\$ 17,145.00

iii. Spaulding and Norris, PA

		Spaulding & Norris	
		Estimated Man-Hours	
		Engineer	Fee
		\$125/hr	Estimate
Construction Materials Testing and Certifications (ATC & SN)			
	NCDOT Certification	56	\$ 7,000.00
		0	\$ 7,000.00

iv. ATC Associates of North Carolina, PA

		ATC Testing				
		Estimated Man-Hours		Lab Testing		
		Technician	Engineer	Test	Test	Fee
		\$55/hr	\$125/hr	Quantity	Unit Cost	Estimate
Construction Materials Testing and Certifications (ATC & SN)						
	Soil	327	40			\$ 22,985.00
	Concrete	150	35			\$ 12,625.00
	Asphalt	139	30			\$ 11,395.00
	Liquid/Plastic Limits			10	\$ 45.00	\$ 450.00
	Standard Proctor			12	\$ 100.00	\$ 1,200.00
	Concrete Cylinders			55	\$ 10.00	\$ 550.00
	Reserves - Not Tested			11	\$ 8.00	\$ 88.00
	Nuclear Density		20	30	\$ 40.00	\$ 3,700.00
	NCDOT Certification					
			125	118		\$ 52,993.00