Statement of Qualifications

Orangeburg County

US 301 Over Four Hole Swamp

Design Build Project ID 00403081

April 11, 2022

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

3.2 Introduction

3.2.1 - Crowder Construction Company

Authority to Execute Contract
George Ellis, PE
Crowder Construction Company
PO Box 30007
Charlotte, NC 28230
(704) 332-8184 | (704) 995-4757 (m)
gellis@crowderusa.com

Project Management Office
6409 Brookshire Blvd.
Charlotte, NC 28216
Construction Managed from field office

3.2.2 - Procurement Points of Contact

Chris Boyd, PE, DBIA
Crowder Construction Company
PO Box 30007, Charlotte, NC 28230
(704) 348-1304 | (704) 942-6580 (m)
cboyd@crowderusa.com

Walker Roberts, PE
TranSystems Corporation
4400 Leeds Ave, Ste 430,
Charleston, SC 29405
(843) 266-9304 | (704)236-3802 (m)
wsroberts@transystems.com

3.2.3 - Lead Contractor/Designer

Lead Contractor
Crowder Construction Company

Lead Designer
TranSystems Corporation

3.2.4 Commitment of Key Individuals

All key personnel identified will be committed to the project per requirements of the RFQ and to meeting SCDOT's quality and schedule expectations. Crowder Construction Company and TranSystems confirms availability of key staff for the duration of the project.

Executive Commitment

George Ellis, PE
Vice President
Crowder Construction Co.

Peter Strub, PE
Sr. Vice President
TranSystems

No team member has been suspended, debarred, disqualified from bidding, or declared ineligible for work by any entity or are any such actions pending against them within the last five years.

3.3 Team Structure & Project Execution

3.3.1 Organization Chart, Team Structure, & Team Integration

US 301 over Four Hole Swamp will be led by Crowder Construction Company (Crowder). Crowder is a prequalified prime contractor with SCDOT. Crowder will be the sole entity to contract with SCDOT, responsible for the overall Design Build (DB) project and will self-preform most of the key elements on the project including major bridge construction, demolition, and ancillary roadway components. Table 1, below, illustrates the team structure, and the organizational chart (Figure 1) demonstrates the "Chain of Command", lines of communication, and functional relationships.

Firm	Role	Responsibility
CROWDER	Lead Contractor	Overall project, bridge & roadway approaches construction, demolition, MOT, erosion/sediment control, quality control, removal and disposal of lead paint and asbestos.
TranSystems	Lead Designer	Overall design management, bridge design, seismic design, roadway design, MOT design, hydrologic/hydraulic analysis and design, QA/QC, as built plans, and public involvement.

Table 1

Figure 1: Organization Chart

Legend

- Direct Report/Chain of Command
- Coordination/Communication
- Key Personnel
- DBE firm
- Project Executive Committee
- Contractor Team
- Design Engineering Team
- Quality Control Team

Crowder (CR)	DUNS: 006779896
TranSystems (TS)	DUNS: 009933255
NOVA (NO)	DUNS: 969485861
★ Three Oaks (3O)	DUNS: 079327186
★ CES Group (CG)	DUNS: 041912254
Telics (TE)	DUNS: 117363691

SCDOT

SCDOT CEI & QA & IA

Project Executive Committee
Crowder
TranSystems

Project Manager & Primary Point of Contact
Patrick Crowder Buckley, DBIA

Safety Manager
Crowder

Quality Control (QC) Manager
TranSystems

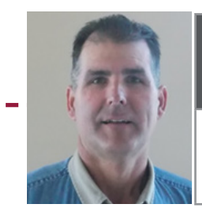
SCDOT Certified Inspectors
TranSystems/NOVA

AASHTO Certified Lab
NOVA

Design Quality Manager
TranSystems

Assistant Project Manager
Mitchell George Davis, PE

Lead Design Engineer
Walker Scott Roberts, PE



Construction Manager
William Andrew Culbertson

Design Support Services

HAZMAT Studies/Compliance **NOVA**
Environmental Permitting **Three Oaks**
Utility Coordination/ Right of Way **Telics**
Survey/SUE **CES Group**
Public Involvement **TranSystems**

Design Team

Bridge/Seismic Design **TranSystems**
Roadway Deign **TranSystems**
Maintenance of Traffic **TranSystems**
Hydrology/Hydraulic **TranSystems**
Geotechnical Engineering **NOVA**

Project Superintendent
Crowder

Construction Team

Structure Foremen **Crowder**
Roadway Foremen **Crowder**
SWPPP Compliance **Crowder**
Project Controls/Scheduling/DBE Compliance **Crowder**

Potential DBE Subcontractor Opportunities

Grading & Roadwork	Pavement Markings
Reinforcing Steel	Concrete Barrier Wall
SIP Forms	Hauling
Asphalt Paving	Signs
Erosion Control	Guardrail
Clearing & Grading	

Team Structure

Crowder has partnered with TranSystems as the lead designer and other specialty subconsultants providing support for the US 301 Over Four Hole Swamp project. Crowder's **Project Manager**, **Patrick Buckley, DBIA,** will be the primary person responsible for, and in charge of, delivery of the project in accordance with RFQ/RFP requirements and will be SCDOT's primary point of contact. Patrick will attend and lead weekly status meetings during the design and construction phase and has authority in all design and construction matters. He will be supported by George Ellis, PE, on the executive committee as final authority for any contract changes exceeding $10,000 in value. Patrick has managed DB projects up to $24 million and he is an effective communicator and leader.

Mitchell Davis, PE will support Patrick, as the **Assistant Project Manager**. Mitchell will be in charge of daily coordination of the project under Patrick's direction. He will serve as the day to day contact for SCDOT during design and construction. Mitchell has served in Assistant Project Manager and Project Manager roles on several bridge replacement projects, including Wagener Rd over South Fork Edisto River in Aiken County, S-461 over Willow Swamp in Colleton County, and Spruill and O'Hear Avenue Bridges over Noisette Creek in Charleston County. Additionally, **William Culbertson, Construction Manager**, will be responsible for daily planning and management of construction activities at the project the superintendent managing the daily activities of the staff. William will be the daily site contact for inspectors and SCDOT and he will attend weekly progress meetings. He has served as the Construction Manager and Jobsite Superintendent for several SCDOT bridge replacement projects, including the SCDOT Wagener Rd over South Fork Edisto River in Aiken County and SC 9 Bridges over Broad River, Canal, Canal Road, and Lockhart Drive in Chester and Union Counties and more recently the flat slab bridges over S-76 over Jefferies Creek in Florence County and US 301 over Pudding Swamp in Clarendon County.

Wagener Rd over South Fork Edisto River, Aiken Co.

Walker Roberts, PE, will serve as the **Lead Design Engineer**. He will be responsible for the overall design and plan development, coordinating all design disciplines, will attend all project meetings in person, and be available as needed by SCDOT. Walker has served as the project manager and lead roadway engineer for SCDOT US 76 Widening that included the replacement of an existing bridge with a new dual 2-lane bridge over Lake Swamp, and the Mount Gallant Road Improvements & Bridge Replacement project in Rock Hill. Walker will be supported by **Matt Rekers,** TranSystems bridge design lead. Matt and Walker have a great working relationship from delivering the SCDOT S-458 & S-671 bridge replacement projects, the Mount Gallant Road over Manchester Creek bridge replacement, as well as working together on the District 4 Closed and Load Restricted Bridge design build pursuit. Matt also has a great working relationship with Patrick Buckley from the CSX over I-85 Bridge Replacement.

Functional Relationship and Integrated Team

Crowder's Team is structured to share and apply lessons learned on SCDOT DB jobs to ensure effective teamwork with clear lines of authority and responsibility with open channels of communication. The design and construction teams are structured to ensure efficient cross-communication and integration between design and construction staff throughout the entire project. Our **Project Manager, Patrick Buckley, DBIA**, will be the primary person in charge of the project. Figure 2 demonstrates the functional reporting responsibilities, and how we will function as an integrated team. Crowder and TranSystems have previously worked together on the SCDOT Design Build Pursuit for Closed and Load Restricted Bridge Package 2021-1 and both TranSystems and Crowder were a part of, but working separately on, the CSX over I-85 Bridge Replacement Design Build project in Spartanburg, Hampton Avenue Extension Pedestrian Bridge in Greenville, and Palmetto Railways Bridge over Noisette Creek in Charleston. We have included more projects where we have worked together in Table 3.

Figure 2: Functional Relationships

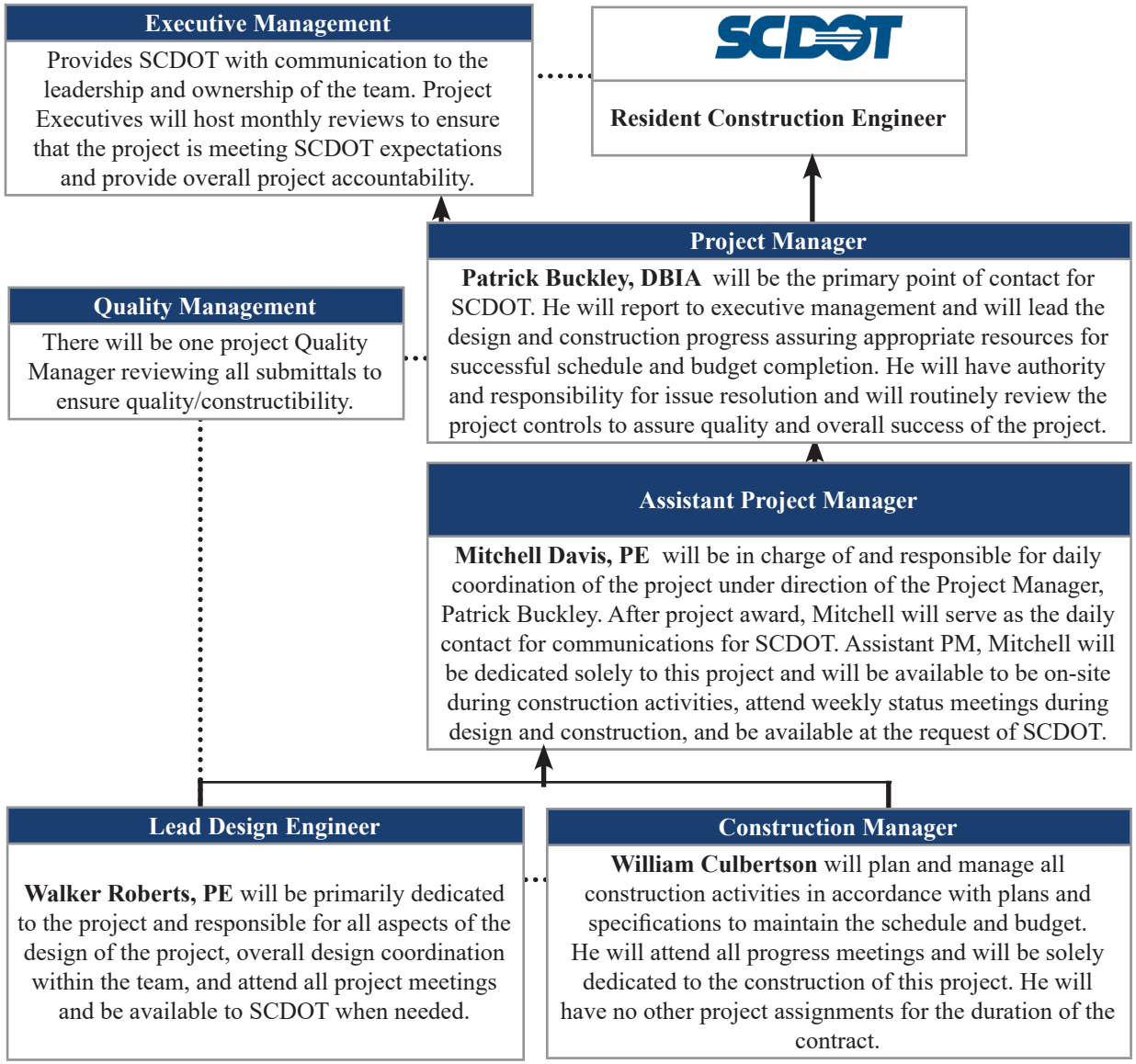


Table 2: Design Build Integration Strategies

- Task Force meetings will be held Pre-construction and continue into Construction and will include Major Subcontractors, Stakeholders, and SCDOT as appropriate. Weekly / Monthly Project meetings will also be held to promote collaboration, planning, constructibility, scheduling, and effective constructibility and design reviews.
- Pre-design meetings with SCDOT upon award and as needed thereafter
- Technology Integration – BlueBeam Plan reviews, ProjectWise file management system, and Video Conferencing
- Pre-submittal constructibility reviews by Construction Team
- Dedicated design / construction document control specialists to coordinate with SCDOT on design and construction submittals
- TranSystems will have dedicated QC team to perform independent quality control using PCDM-22 Quality Control Checklists for Design

Table 3: Working Together as a Team and Collaborating on the Same Projects	Crowder	TS	NOVA	3 Oaks
CSX over I-85 Bridge Replacement, Spartanburg County, SC (2016-Current) Crowder – CSX Bridge Subcontractor, TranSystems – Engineer of Record Contact: SCDOT, Brad Reynolds, PE, DBIA, reynoldsbs@scdot.org, (803) 737-1440 (TranSystems reference) Contact: SCDOT, Shane Parris, PE, DBIA, parrissl@scdot.org, (864) 490-0466 (Crowder reference)	✓	✓		✓
Navy Base Intermodal Facility South, Palmetto Railways Bridge over Noisette Creek, Charleston, SC (2016-2020) Crowder - Bridge Subcontractor, TranSystems - Design Engineer Contact: Palmetto Railways, Tarek Ravenel, travenel@palmettorail.com, (843) 277-5582	✓	✓		
Hampton Avenue Extension Pedestrian Bridge over NSRR, Greenville, SC (2019 - 2020) Crowder - Bridge Subcontractor, TranSystems - Engineer of Record Contact: Greenville County, Hesha Gamble, PE, HEGamble@greenvillecounty.org, (864) 467-7010	✓	✓		
Cedarcrest Road Widening, Paulding County, GA (2017-Current) TranSystems - Engineer of Record, NOVA - Geotechnical Engineer Contact: Paulding County DOT, Scott Greene, PE, scott.greene@paulding.gov (770) 445-4759		✓	✓	
Bees Ferry Road Widening and Bridge Replacement over Church Creek (2007-2016) TranSystems - Lead Designer, Three Oaks - Environmental Services Contact: Charleston County, Devri Detoma, ddetoma@charlestoncounty.org, (843) 202-6140		✓		✓
SR156 Bridge Replacement over Salacoa River and Overflow (2019-Current) TranSystems - Bridge and Hydraulic Design, NOVA - Geotechnical Investigations/Analysis Contact: NV5, Ken McDuff, PE, ken.mcduff@nv5.com, (678) 795-3612		✓	✓	
SC 9 Bridges over Broad River, Canal, Lockhart Drive, and Canal Road (2016-2017) Crowder - Prime Contractor, Three Oaks - Environmental Contact: SCDOT, Melanie Mobley, mobleymf@scdot.org, (803) 385-4233	✓			✓
Charlotte Douglas Intl Airport (CDIA) Package 3: Taxiway Bridge & Road Realignment (2021-current) Crowder - Prime Contractor, NOVA - Construction Quality Control/Materials Testing Contact: Charlotte Douglass Int. Airport, Leslie Jo Hurwitz, PE lesliejo.hurwitz@cltairport.com (704) 564-7919	✓		✓	

Table 4: Critical Risks
RFQ Defined Risk 1 - Wetland and Stream Mitigation
Risk: There are currently no mitigation banks which offer stream credits for stream impacts. | ***Mitigation Strategy:*** Stream impacts could be mitigated with wetland credits. We will evaluate lengthening the bridge to avoid front slope stream impacts. | ***SCDOT/Other Agency Roles:*** SCDOT and USACE discussion to determine if stream impacts can be mitigated with wetland credits if needed.
Risk: Limited wetland credits available, the previous permit referenced that half must be restoration and the remainder preservation. | ***Mitigation Strategy:*** Swallow Savannah Wetland Mitigation Bank is only current private bank servicing project (currently 4.80 Buffer Preservation credits and 158.04 enhancement/ restoration credits available). Credit availability is variable and may not be available to meet the permit's needs and our team will evaluate State Mitigation Banks, such as the Black River Mitigation Bank, additional credits from Pidgeon Pond Mitigation bank or Permittee Responsible Mitigation. | ***SCDOT/Other Agency Roles:*** Coordination with SCDOT and USACE early to determine number of credits and/or the need for additional credits and/or PRM.
RFQ Defined Risk 2 - Geotechnical Subsurface Conditions
Risk: Weak soils encountered below elevation 50 within the Warley Hill Formation effect on foundation selections. | ***Mitigation Strategy:*** Will evaluate existing subsurface investigations and confirm site conditions by performing additional investigations as necessary. Will select foundation types that are not effected by the weak soils; similar to Crowder's S-182 Emergency Bridge Replacement in Aiken. | ***SCDOT/Other Agency Roles:*** SCDOT review and approval of foundations.
Risk: The seismic slope stability at the bridge approach embankments may affect the performance of the bridge for the Extreme Event I limit state. | ***Mitigation Strategy:*** Will evaluate existing subsurface investigations testing and confirm site conditions by performing additional sampling and testing. Ground improvement methods will be evaluated to improve embankment performance, as was performed on Crowder's Wagener Rd over South Edisto River D/B Project in Aiken. | ***SCDOT/Other Agency Roles:*** SCDOT review/approval of seismic slope stability and proposed improvements for usage.
RFQ Defined Risk 3 - Market Conditions
Risk: Extremely difficult hiring market for skilled labor. | ***Mitigation Strategy:*** Crowder has hired great craft labor over the years and we have continued to retain our people by offering competitive compensation, training, growth opportunities, and a safe work environment. Crowder prides itself on controlled, intentional growth, therefore never stretching our forces too thin. | ***SCDOT/Other Agency Roles:*** None Anticipated
Risk: Material Escalation | ***Mitigation Strategy:*** We have in depth discussions with material vendors/subcontractors during the estimating phase. We present a detailed schedule to show exactly when work will be occurring. Supplier may add a price hold date or give information on escalations, if not we use historical pricing/projected trendlines to anticipate costs 12-18 months in the future. We begin writing Purchase Orders as soon as possible to lock in pricing and avoid potential sharp future increases. | ***SCDOT/Other Agency Roles:*** SCDOT can expedite the award once apparent low bidder is announced, as well as expedite design review during the design phase.
Risk: Material Lead Times | ***Mitigation Strategy:*** An early work design package will let us finalize quantities quickly. We will get piles into production months ahead of needing to be onsite, as precast has been one of the longest lead time items. HDPE alternatives for pipe culverts will be evaluated as this material currently has shorter lead times than precast. | ***SCDOT/Other Agency Roles:*** SCDOT approval for/ expediting early work design packages.
RFQ Defined Risk 4 - Maintenance of Traffic
Risk: Distance between bridges on the west approach may not provide adequate distance for MOT cross overs during construction for 60 MPH posted speed. | ***Mitigation Strategy***: US 301 SB currently has 35 mph work zone speed limit signing in place. If this reduced work zone is allowed for this project the cross overs can occur between the Four Hole Swamp and Indian Camp Branch bridges. However if required to maintain the 60 mph posted speed limit, MOT cross overs will need to occur to the west of the bridges over Indian Camp Branch. Our team will evaluate necessary design speed for construction without compromising safety. | ***SCDOT/Other Agency Roles:*** : SCDOT review/approval of temporary construction speed limit for MOT cross overs.
Risk: Existing southbound Indian Camp Branch bridge may not provide adequate width for two-directional traffic for MOT staging. | ***Mitigation Strategy:*** The existing bridge width is approximately 32' between faces of guardrail - running a temporary concrete median barrier down the center of the southbound Indian Camp Branch culvert in Phase 2 will require a reduction to 11' travel lanes with 2ft shy lines to the temporary median barrier and guardrail. | ***SCDOT/Other Agency Roles:*** SCDOT review/approval to reduce temporary travel lane widths to 11 feet.

3.3.3 Project Resources, Strategies, & Execution

Crowder is a family-owned business that has built bridges in SC and NC since 1954. Crowder is headquartered in Charlotte, NC, with over 900 employees in multiple divisions, has a strong financial base, and owns a significant bridge construction equipment inventory. The Heavy Civil Division has a tenured and accomplished staff of construction professionals who take great pride in building quality projects safely, while developing superior partnering relationships with owners, other contractors, and stakeholders on the projects we build. Crowder has successfully completed DB projects for SCDOT and has developed greater capacity for alternate delivery contracting.

Team Capacity

Crowder has the necessary personnel, equipment, technological, and financial resources available to meet the needs of this project. Crowder's backlog is currently $400 million with a total bonding capacity of $800 million. Crowder Heavy Civil maintains 10 structures crews and 3 grading/drainage crews and associated equipment. A minimum of 2 structures crews and 2 roadway crews will be committed to this project. To accelerate the schedule we will work on both approaches simultaneously. As we did on the Wagener Rd over South Fork Edisto River bridge in Aiken, Crowder will have a lead structure crew focusing on foundation piles. We will utilize our flat slab form system, successfully on multiple projects, including Spruill Avenue in Charleston, S-76 over Jefferies Creek, and US 301 over Pudding Swamp. We will cycle the forms directly behind our foundation crew. Crowder will allocate additional resources as necessary, to ensure any unforeseen schedule impacts are recovered. TranSystems' 20 staff in SC are supported by a company-wide staff of nearly 1,000 that can provide additional resources if needed to deliver this project. This staff has completed similar design roles on prior SCDOT DB projects and is immediately available to apply those lessons learned and serve this project. In addition to TranSystems' staff, NOVA and other subconsultants have SCDOT experience, in-state staff, and are immediately available for this project.

Table 5: Labor Resources			Equipment Resources		
Classification	**On Staff**	**Required**	**Classification**	**Available**	**Required**
Carpenters	50	6	Cranes (50 - 300 ton)	16	2
Structures Foremen	18	2	Vibratory Hammers	2	1
Operator Crane	8	2	Pile Impact Hammers	4	1
Laborers	4	3	Manlifts	1	1
Piledriving Foreman	4	1	Dozers	2	1
Equipment Operators	6	3	Excavators	11	2
			Loaders	4	2

Crowder will conduct a storyboard planning session for the job at the outset to finalize any self-performed versus subcontracted activities as well as

Team's Strategy for Implementation of Resources to Execute the Contract

define the critical path sequence. Additionally, a final production schedule will be developed for submission to SCDOT. Crowder will approach the construction as we did on Wagener Rd over South Fork Edisto River, except maintenance of traffic will be a much larger and complex task. Crowder will employ various DBE subcontractors to assist with traffic control. With traffic shifted, Crowder will be ready to drive precast piles

immediately after the demolition of the first bridge. As the foundation crew moves forward, a second concrete crew will form caps and cycle the flat slab forms for the superstructure construction. As the first and end spans are completed multiple grading crews will begin grading approach work and roadway resurfacing and shoulder improvements become the critical path. TranSystems and Crowder are already planning early work design packages to expedite material deliveries and mitigate price escalations.

Table 6: Team Resources *Crowder will self-perform all major scopes of construction work (70-85% of total contract) to maintain schedule control*

Construction Category	Self Perform	Construction Category	Sub Contract	Design Discipline	TranSystems	NOVA	Three Oaks	CES	Telics
Construction Management	✓	Clearing and Grubbing	✓	Structural/Bridge Design	✓				
Pile Foundations	✓	Roadway Striping	✓	Roadway Design	✓				
Caps	✓	Erosion Control Installation	✓	Hydrology & Hydraulic Design	✓				
Flat Slab	✓	Guardrail	✓	Geotechnical Design/HAZMAT		✓			
Approaches	✓	Hauling	✓	MOT	✓				
Demolition	✓	Barrier Walls	✓	Utility Coordination					✓
Site Utility Coordination	✓	Grooving	✓	Surveying				✓	
E&S Control Maintenance	✓	Traffic Control	✓	Environmental Permitting			✓		
Storm Drainage Piping	✓	Paving	✓	Right of Way					✓
Rip Rap Slope Protection	✓	Flatwork	✓	Public Involvement	✓				
Subcontractor Support	✓	Reinforcing Steel	✓	SUE				✓	
				Construction Support (RFIs, Shop Drawings, As-Builts. Etc.)	✓	✓			

Unique Innovations to Encourage DBE Participation

As a standard operating procedure, Crowder has personnel in place to encourage DBE participation in our contracts. We have attended and given excellent presentations at DBE outreach events conducted by SCDOT, we solicit DBEs by email for all of our bids and follow up with phone calls, breaking the bid down into manageable packages. As extra measures, Crowder takes a holistic approach to DBE, small and minority subcontracting. Making small contractors stronger through training and encouraging under served community training and career path education will help small businesses and create small business owners who know Crowder as a trusted resource. Crowder recognizes that subcontractors are one of the keys to

our success. We have an inclusive culture and maintain a diverse core group of employees. Our efforts provide an avenue to mentor subcontractors in a manageable way for Crowder and other larger contractors in our area. Additionally, to encourage DBE participation, the design team includes CES Group and Three Oaks, who are both SCDOT certified DBE firms.

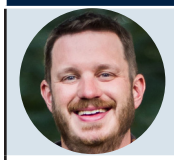
Table 7: Ways Crowder Encourages DBE Participation	
1	A member of our executive management team has served on the Carolinas Association of General Contractors (CAGC) Human Resources (HR) Committee for over 20 years. The committee acts as a "Member Help Desk" to answer EEO-related questions and help the subcontractor community handle the compliance issues, especially when they are working with a federal contractor.
2	The CAGC HR Committee conducts an annual 2-day conference in the Spring of each year, and the focus is helping our smaller / minority subs strengthen their knowledge base on issues such as DOT work, DBRA projects, Affirmative Action Plans, EEO regulations and support. The cost is $99 plus a room for one night, intentionally targeting small and diverse businesses for training and to provide networking opportunities.
3	Crowder executive management have served on the CAGC Board of trustees with a focus of strengthening the Carolinas contractor community through training and direct support of the craftworker skills shortage. The Build Your Career (BYC) initiative challenges member companies to get involved in local high schools and trade schools to promote careers in construction. We also directly advocate, support, and provide safety training, offering the member discounted rate to smaller companies who may not have the ability to join the CAGC.
4	Crowder is directly involved in the ROC as well as the CPCC Harper Campus Construction Institute. Both of these initiatives target underserved populations to provide access to careers in construction.
5	Our executive management also chairs and serves on the CAGC Diversity and Inclusion Committee. We are working to strengthen the participation of minorities and females in the construction industry.
6	Not so much in the past two years, because of COVID, but prior to 2020, we have utilized training availability in our Crowder YOUniversity to balance potential escalation of subcontractor issues at the jobsite. Sometimes just understanding someone else's approach to problem resolution, helps solve the problem. We have reached out for needs-based training to strengthen subcontractor personnel in our 7 Habits for Highly Effective People, and our Big Five personality assessment and coaching.

Geographical Location of the Firms

Crowder will manage the project from their Charlotte office, located 2 hours from the project site, as well as a large mobile office will be set up at the job site to serve as the Construction Manager's office. The mobile office will also have flex workspaces for the project manager and assistant project manager when they are working on-site, there will also be space for TranSystems' engineers to co-locate as needed. The unit will also contain a meeting room for owner progress meetings and onsite training. Crowder currently has bridge and grading crews located near the SC Midlands and Charlotte, with at least two crews ready to mobilize and begin construction upon NTP and early design package approval. TranSystems will manage the design from the Charleston office, only 1 hour from the site. The proximity of the offices to the site and SCDOT headquarters will allow for enhanced communication, planning, and brainstorming via face-to-face and virtual meetings, coupled with in-person project meeting attendance.

3.4 Experience of Key Individuals

Please see Appendix A for resumes of our Key Individuals. All team members currently hold or will obtain licenses required for performing work on the project under state and local laws. The Crowder Team commits key staff to fill designated roles, who will be available for the duration of the project and will satisfy the minimum requirements for the following key staff roles: Project Manager, Assistant Project Manager, Lead Design Engineer, and Construction Manager.

Table 8 Position/Name/Firm	Key Qualifications *(click headshot to view Key Individual resumes)*
 **Project Manager** **Patrick Buckley, DBIA** **Crowder**	✔ 14 years of proven experience in heavy civil construction, respected leader in our organization ✔ Has successfully managed multiple SCDOT Design Build Bridge replacements, including several emergency projects on tight schedules
Assistant Project Manager **Mitchell Davis, PE** **Crowder**	✔ 25 years of experience in management of heavy civil construction projects ✔ Has successfully served as Assistant Project Manager and Project Manager of similar SCDOT Design Build Bridge projects
Lead Design Engineer **Walker Roberts, PE** **TranSystems**	✔ 13 years of experience in project management and design leadership roles on SCDOT projects, including bridge replacements, roadway design, and complex MOT design ✔ Has successfully led design teams, including Design Build teams, to complete innovative designs
Construction Manager **William Culbertson** **Crowder**	✔ 35-year veteran in civil construction means and methods including design build bridges ✔ Has successfully managed SCDOT Design Build bridge projects keeping projects on schedule and on budget

Crowder Team's Additional Staff to Contribute to Project Success

Table 9 Position/Name/Firm	Key Qualifications
Structures Lead **Matt Rekers, PE** **TranSystems**	✔ 8 years of structural design experience and EOR for multiple bridges in SC with various structure types (RC flat slabs, PSC girders, etc.).

3.5 Past Performance of Team

Please see Appendix B for the Work History and Quality Form-Contractor/Designer.

Appendix A

Resumes of Key Individuals

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

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KEY INDIVIDUAL RESUME FORM

Brief Resume of Key Individual anticipated for the Project.

a. Name & Title:
Patrick Crowder Buckley, DBIA
Sr. Project Manager

b. Role of Key Individual for this Project:
Project Manager

c. Name of Firm with which you are now associated:
Crowder Construction Company

d. Years of Experience: With this Firm _14__ Years With Other Firms _0_ Years

Firm 1: Crowder Construction Company - Sr. Project Manager –, 2021 – Present
Firm 1: Crowder Construction Company - Project Manager –2017 – 2019
Firm 1: Crowder Construction Company - Asst. Project Manager -, 2014 – 2016
Firm 1: Crowder Construction Company - Project Engineer 2008-2013

e. Education: Name & Location of Institution(s)/Degree(s)/Year(s)/Specialization(s):
NC State University/ Raleigh, NC/ Bachelor of Science / Business Administration / May 2008

f. Active Registrations: **N/A**

g. Document the extent and depth of your experience and qualifications relevant to the Project.

SCDOT File No. 8888860 -Spartanburg County I-85 Design-Build – CSX Rail Road Bridge subcontractor for Blythe/ZachryJV
Key Personnel Role: Senior Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2016-2022, Assigned 2018-2022
Owner Contact Information: SCDOT, Shane Parris, parrisSL@scdot.org , (864)490-0466
Design/Construction Value: $24 million subcontract/$435 million entire project
Project Description: The CSX railroad bridge is the only portion to this project that was not design build; however, Crowder is responsible for the design and construction of retaining wall 3. The 3-span railroad bridge is founded on drilled shaft interior bents and driven H pile on the end bents with an steel superstructure of two-154" girders and a 96" girder. Complex concrete pours were successfully completed using mass concrete measures. Responsibilities have included safety, budget, schedule, quality and a high level of communication with the owner, engineer TranSystems, the Prime Contractor, Blythe/Zachry JV and Crowder executive management.

SCDOT File No. 5485020 SC 9 Bridges over Broad River, Lockhart Canal, Canal Road and Lockhart Drive, Chester/Union County, SC
Key Personnel Role: Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project: 2017-2020, Assigned: 2017-2019
Owner Contact Information: SCDOT, Melanie Mobley, mobleymf@scdot.org, (803) 385-4233
Design/Construction Value: $25 million (construction)
Project Description: Replacement of multiple SC 9 bridges in Lockhart includes new alignment bridges and roadway. The four (4) new bridges are the 750 LF bridge over the Broad River, the 160 LF bridge over the Lockhart Canal, the 86 LF bridge over Canal Road, and the 100 LF bridge over Lockhart Drive. The project also includes temporary roadway alignment, staged bridge construction, access in the Broad River, historic rock wall removal and temporary shoring. Responsibilities include safety, budget, schedule, quality, and coordination with the owner, multiple other agencies, Jobsite Superintendent and Crowder executive management.

SCDOT File No. 3682950 Emergency Design-Build Package 3 Fairfield Florence & Newberry Counties

Key Personnel Role: Asst. Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2016, Assigned 2016
Owner Contact Information: SCDOT, Drew McCaffrey, McCaffreGA@scdot.org, (864) 889-8004
Design/Construction Value: $7.3 million Design and Construction
Project Description: Emergency Design-Build Replacement of 3 Bridges and approach work - Fairfield, Florence and Newberry Counties damaged by flooding in September and October 2015. The bridges were a 100 foot, single-span, Cored Slab over Lake Wateree, a 70 ft Single Span, Type II Beam Bridge over Barfield Mill Creek and a 100-foot Single Span Modified Bulb-Tee Beam Bridge over Heller's Creek. Responsibilities included purchase orders and subcontracts, RFI's and submittals as well as coordination with the owner, jobsite superintendent and Sr. Project Manager.

SCDOT File No. 3283411 – Emergency Design Build Package 6, Richland County

Key Personnel Role: Asst. Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2016, Assigned 2016
Owner Contact Information: SCDOT, Robert Power, PowerRW@scdot.org, (803) 769-9540
Design/Construction Value: $5.8 million Design and Construction
Project Description: The project is the emergency design-build replacement of 3 bridges on Bluff Road in Richland County, SC. The bridges were damaged during a high-water event and were shut down. The bridges are 100, 120 and 160 LF two of which were Flat Slab structures founded on driven pile and the third a modified bulb tee with cast-in-place deck. Responsibilities included purchase orders and subcontracts, RFI's and submittals as well as coordination with owner, jobsite superintendent and Sr. Project Manager.

NCDOT Express Design Build Division 11

Key Personnel Role: Project Engineer
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2012-2015, Assigned 2012-2015
Owner Contact Information: NCDOT, Trent Beaver, tbeaver@ncdot.gov, (336) 903-9117
Design/Construction Value: $10 million Design and Construction
Project Description: Design, Construction and Management of the replacement of fifteen bridges - 2 in Ashe, 4 in Avery, 1 in Caldwell, 2 in Watauga & 6 in Wilkes Counties. Project to include Design Services, Construction Services, Permits, Utility Coordination, Right of Way acquisition, Construction Engineering & Inspection - bridges range in length from 35 feet to 125 feet - with average bridge length at 60 feet. Responsibilities included purchase orders and subcontracts, RFI's and submittals as well as coordination with owner, jobsite superintendent and Sr. Project Manager.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Patrick is currently closing out our subcontract with Blythe/ZachryJV for the CSX bridge on I-85 in Spartanburg County as well as two progressive design-build projects for Charlotte Water and will be 100% available for this project.

Click to Return

KEY INDIVIDUAL RESUME FORM

Brief Resume of Key Individual anticipated for the Project.

a. Name & Title:
Mitchell George Davis, PE
Project Manager

b. Role of Key Individual for this Project:
Asst. Project Manager

c. Name of Firm with which you are now associated:
Crowder Construction Company

d. Years of Experience: With this Firm 16 Years With Other Firms 10 Years
Firm 1: Project Manager – Responsible to Executive Oversite for assigned projects, 2018 – Present
Firm 1: Asst. Project Mgr.– Responsible to Project Manager as assigned, 2006-2017
Firm 2: City of Charlotte - Transit Amenity Engineer— 2004-2006
Firm 3: Treviicos - Project Engineer – 1997-2004

e. Education: **Clemson University – Bachelor of Science, Civil Engineering - 1997**

f. Active Registrations: **2013 / NC / Professional Engineer: Civil / 040263**

g. Document the extent and depth of your experience and qualifications relevant to the Project.

File No: 0259250 Aiken Emergency Design Build Bridge, Wagener Road (SC4/SC302) over South Fork Edisto River
Key Personnel Role: Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2021-2022, Assigned 2021-2022
Owner Contact Information: SCDOT, Bobby Usry, UsryBM@scdot.org, (803) 641-7660
Design/Construction Value: $6.3 Million
Project Description: This project is design and construction of an emergency bridge replacement. The bridge is 610 feet long and is a combination of flat slabs and Type III girder cast-in-place deck all founded on precast concrete composite piles. Responsibilities included safety, budget, schedule, contract compliance, quality, and coordination with construction management, Owner, and other Stakeholders.

Charlotte Gateway Station, for NCDOT Rail Division - Contract C204058
Key Personnel Role: Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2018-2022, Assigned 2018-2020
Owner Contact Information: NCDOT, Jamal Atkins, jratkins@ncdot.gov, (704) 438-1778
Design/Construction Value: $50 Million
Project Description: Project includes grading, drainage, 8 bridges, 1,100 LF Amtrak passenger platform, 7 retaining walls, rock plating, utility re-locations, sub-ballast installation, bridge plumbing systems, paving, egress stairs, tunnel and walkways, caissons, micro-piles, temporary pedestrian walkway enclosures, bridge demolition, and temporary shoring. Responsibilities included start up materials acquisition and subcontracts for specific segments of the project including PO's, subcontracts, submittals, and RFI's. Assisted the Sr. Project Managers to assure project start up success.

SCDOT Colleton County – SCDOT File 1504700 S-641 over Willow Swamp
Key Personnel Role: Asst. Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2018, Assigned 2018
Owner Contact Information: SCDOT, F. Keith Green, greenfk@scdot.org, (803) 746-7902
Design/Construction Value: $3 million
Project Description: The overall project is a 250 ft long - 3' Cored Slab Bridge with Asphalt Paving. There are five-50 ft spans founded on 24" Concrete Pile Foundation with 12 x 53 pile points with four interior Bents and two End Bents constructed in 5 months. Responsibilities included safety, budget, schedule, contract compliance, quality, and coordination with construction management, Owner, and other Stakeholders.

SCDOT Charleston Co. File 10.038226R2-Spruill & O'Hear Ave Bridges over Noisette Crk
Key Personnel Role: Asst. Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2015-2016, Assigned 2015-2016
Owner Contact Information: SCDOT, Clay Bodiford, bodifordca@scdot.org, (843) 740-1574
Design/Construction Value: $8.5 million
Project Description: Project is for two bridges under A+B bidding process. Crowder mobilized onto the site, cleared and a 90-day utility relocation window began in accordance with the spec. Both bridges consist of 7500 LF of 24" Concrete Pile with 12 x 53 stingers. The O'Hear bridge has 8400 LF of 3' Cored Slabs (60' and 70' lengths) and the Spruill bridge is a 1600 CY Flat Slab bridge. Responsibilities included safety, budget, schedule, contract compliance, quality, and coordination with construction management, Owner, and other Stakeholders

NCDOT Division 13 Design Build Low Impact Bridges
Key Personnel Role: Asst. Project Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2011-2014, Assigned 2012-2014
Owner Contact Information: NCDOT, Cole Hood, RCE, chood@ncdot.gov, (828) 298-0080
Design/Construction Value: $8 million
Project Description: Design Build - 9 bridges in 5 counties – Low Impact Replacement of One Bridge in Buncombe County, Two Bridges in Burke County, One Bridge in Madison County, Three Bridges in Mitchell County and Two Bridges in Rutherford County. Responsibilities included materials acquisition and subcontracts for specific bridges in the project including PO's, subcontracts, submittals, and RFI's. Assisted the Sr. Project Manager to assure project success.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Mitchell Davis is currently managing a marine project for Safe Harbor Marina in Charleston. He will be in the closing stages of that project when the US 301 over Four Hole Swamp project is awarded. He will be available 100% as required in the RFP.

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KEY INDIVIDUAL RESUME FORM

Brief Resume of Key Individual anticipated for the Project.

a. Name & Title:
Walker Scott Roberts, P.E.
Project Manager

b. Role of Key Individual for this Project:
Lead Design Engineer

c. Name of Firm with which you are now associated:
TranSystems Corporation

d. Years of Experience: With this Firm 2 Years With Other Firms 11 Years

Firm 1: TranSystems, Senior Project Manager – Responsible for leading SC roadway design team and project delivery. Mr. Roberts and Mr. Rekers have worked on multiple bridge projects together in the state including projects 1 through 3 listed in section G. **April 2020 - Current**

Firm 2: STV Inc., Project Manager-Roadway Engineer – Project manager and roadway design engineer for multiple projects in SC. Served as key roadway design engineer on multiple DB projects. **May 2009- August 2020**

e. Education: Name & Location of Institution(s)/Degree(s)/Year(s)/Specialization(s):
University of North Carolina at Charlotte / Charlotte, NC / Bachelor of Science / 2008 / B.S. Civil Engineering

f. Active Registrations: Year First Registered/State/Discipline/All Active Registration #s:
2014 / SC / Professional Engineer - Civil / 32005
2020 / NC / Professional Engineer – Civil / 052193

g. Document the extent and depth of your experience and qualifications relevant to the Project.

Mt. Gallant Road Improvements & Bridge Replacement over Manchester Creek, Rock Hill, SC
Key Personnel Role: Deputy Project Manager/Roadway Design Lead
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2006-2022, Assigned 2020-Current
Owner Contact Information: Land Design, Rob Keidel, rkeidel@landdesign.com , (704) 333-0325
Design/Construction Value: $1.28M design/$47M Construction(estimated)
Project Description:
This project includes construction plan development of three phases of work to Mount Gallant Road, including widening portions of the roadway, a 5-lane build out of a segment, roadway improvements and replacement of the existing bridge over Manchester Creek. Responsibilities included geometric design of the widening and side roads, drainage design of closed storm system, design discipline coordination, traffic. Walker was responsible for managing the geometric design and storm water plan development of the 3.5 mile corridor widening project. Mr. Roberts and Mr. Rekers worked together for development of the flat slab bridge replacement over Manchester Creek. Walker participated in bi-weekly calls with the Client. Walker developed the closed storm water system for the project and corresponding storm water report, in addition to the Maintenance of Traffic plans/specifications for the project.

S-671 Over Corner Creek Bridge Replacement
Key Personnel Role: Roadway Design Lead
Experience with Current Firm: Firm 1
Project/Assignment Duration: 2020-Current
Owner Contact Information: SCDOT, Clint Scoville, ScovilleHC@scdot.org, (803) 737-2085
Design/Construction Value: $790,000 design/$2M Construction(estimated)
Project Description:
This project includes construction plan development for a new 60' single span prestressed cored slab bridge. Hydraulic analysis was used to determine that the existing bridge did not meet the 2'-0" freeboard requirements or 100 year flood passage. The S-671 structure was raised approximately 1.5' to achieve the hydraulic requirements. Walker is responsible for roadway approaches and storm water plan development, including leading the permit impact drawings for the USACE permit package. Walker is preparing the storm water hydraulic report for the project. The project is entering final design and will be delivered in late 2022.

S-458 Over Cherokee Creek Bridge Replacement
Key Personnel Role: Roadway Design Lead
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2020-Current
Owner Contact Information: SCDOT, Clint Scoville, ScovilleHC@scdot.org, (803) 737-2085
Design/Construction Value: $740,000 design/$2.5M Construction(estimated)
Project Description:
This project includes construction plan development for a new 90' single span fully integral bridge with prestressed AASHTO Type III beams and R/C deck. Bridge hydraulics determined the existing low chord was sufficient to clear the 500 year storm. Design variance was approved to lower the proposed low chord which reduced grades and saved cost. The project identified and improved an existing deficient vertical curve and improved failing roadside slopes adjacent to the tributary. Walker is responsible for roadway and storm water plan development, including leading the permit impact drawings for the USACE permit package which includes impacts/mitigation associated with the stream relocation. Walker is preparing the storm water hydraulic report for the project. The project is entering final design and will be delivered in late 2022.

I-85 Phase 3 Widening MM 98 to 106 Design Build
Key Personnel Role: Senior Roadway Engineer
Experience with Prior Firm: Firm 2
Project/Assignment Duration: 2018-2020
Owner Contact Information: LANE, Chad Curran, cmcurran@laneconstruct.com , (704) 426-2954
Design/Construction Value: $20M design/$204M Construction(estimated)
Project Description:
This project consists of widening 8.4 miles of Interstate 85 in Cherokee County and included 4 interchanges with new overpass structures, frontage roads, intersection design and multiple retaining walls. Mr. Roberts was the senior roadway engineer overseeing and developing design of STV's portion of the project including the exit 104 and 106 interchanges and overpass geometry and plans. Construction of I-85 Phase 3 is currently being completed. Walker additionally reviewed the complex Maintenance of Traffic plans for the multiple stages of construction for the interstate widening.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Walker will not be required to be on-site for the duration of construction.

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KEY INDIVIDUAL RESUME FORM

Brief Resume of Key Individual anticipated for the Project.

a. Name & Title:
William Andrew Culbertson
Construction Manager

b. Role of Key Individual for this Project:
Construction Manager
Mr. Culbertson will be at the jobsite and manage all construction activities.

c. Name of Firm with which you are now associated:
Crowder Construction Company

d. Years of Experience: With this Firm 10 Years With Other Firms 25 Years
Firm 1: Crowder Construction Company – Jobsite Superintendent
(1/16/2012 – lead carpenter, 1/28/2013 – promotion: Foreman (Mechanical), 3/24/2014: promotion: Superintendent)
Firm 2: Blackmon – Bridge Contractor (1976-1986; 1988-1998)
Managed all phases of construction for rural, urban, highway and interstate bridges.
Firm 3: Republic – Bridge Superintendent (1986-1987)
Interstate Bridge Construction
Firm 4: Self Employed (1999-2011) Licensed residential builder

e. Education: Name & Location of Institution(s)/Degree(s)/Year(s)/Specialization(s):
Piedmont Technical College, Greenwood, SC / 1977 / Construction Basics

f. Active Registrations: Year First Registered/State/Discipline/All Active Registration #s: **N/A**

g. Document the extent and depth of your experience and qualifications relevant to the Project.

SCDOT File No. 0259250 Emergency Design-Build Bridge Replacement, Aiken County, SC
Key Personnel Role: Construction Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2021-2022/ Assigned 2021-2022
Owner Contact Information: SCDOT, Bobby Usry, UsryBM@scdot.org, (803) 641-7660phone
Design/Construction Value: $6.3 million (design and construction)
Project Description: This project is design and construction of an emergency bridge replacement. The bridge is 610 feet long and is a combination of flat slabs and Type III girder, cast-in-place deck. all founded on precast concrete composite piles. Responsibilities include safety, jobsite construction management, and contract compliance, scheduling, quality, and coordination with Project Manager.

SCDOT File No. 5485020 SC 9 Bridges over Broad River, Lockhart Canal etc.– Chester/Union County, SC
Key Personnel Role: Jobsite Superintendent
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2016-2020/ Assigned 2016-2017
Owner Contact Information: SCDOT, Melanie Mobley, mobleymf@scdot.org, (803) 385-4233
Design/Construction Value: $25 million (construction)
Project Description: Replacement of multiple SC 9 bridges in Lockhart includes new alignment bridges and roadway. The four (4) new bridges are the 750 LF bridge over the Broad River, the 160 LF bridge over the Lockhart Canal, the 86 LF bridge over Canal Road, and the 100 LF bridge over Lockhart Drive. The project also includes temporary roadway alignment, staged bridge construction, access in the Broad River, historic rock wall removal and temporary shoring. Responsibilities include safety, bridge construction management, scheduling, quality, and coordination with owner and Project Manager.

SCDOT File No. 4007610 Emergency Design-Build Bridge Replacement Package 6, Richland County, SC

Key Personnel Role: Jobsite Superintendent
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2016-2017/ Assigned 2016-2017
Owner Contact Information: SCDOT, Robert Power, PowerRW@scdot.org, (803) 796-9540
Design/Construction Value: $7.4 million (design and construction)
Project Description: The project is the emergency replacement of three bridges on Bluff Road, located in Hopkins, SC. The bridges were damaged during a high-water event and were shut down. The bridges are 100, 120 and 160 linear feet in length with aggressive schedule, the three bridges were designed and constructed in six months. Responsibilities include safety, multi-site construction management, and contract compliance, scheduling, quality, and coordination with Project Manager.

SCDOT File No. 27825800 Bee's & Euhaw Creek Bridges along SC-462, Jasper County, SC

Key Personnel Role: Construction Manager
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2015-2016/ Assigned 2015-2016
Owner Contact Information: F. Keith Green, greenfk@scdot.org, (843) 746-7902
Design/Construction Value: $4.6 million (construction)
Project Description: This project consisted of two bridges in sensitive wetland areas, 6.5 miles apart along SC-462 in Ridgeland, SC. Both bridges had an original design that included earthquake drains and deep soil mixing. After award, SCDOT elected to instead utilize a stone bridge lift that included P8 geogrid as the ground improvements. At the existing Bee's Creek Bridge, Crowder constructed a 120-foot long by 43 feet 3 inches, three-span, flat-slab, continuous structure. The project stipulated 153 days to complete this bridge, before moving to Euhaw Creek, and Crowder completed this segment 24 days ahead of schedule. At the existing Euhaw Creek Bridge Crowder constructed a 90-feet long X 48 feet 3 inches, three-span, flat-slab, continuous structure. Crowder had 151 days to complete this structure and completed in 144 days. Role on this project included multi-site construction management, and contract compliance, safety, scheduling, quality, and coordination with owner and Project Manager.

NCDOT C202977 Div 11A Design Build-Ashe, Avery, Caldwell, Watauga, Wilkes Counties, NC

Key Personnel Role: Jobsite Superintendent
Experience with Current Firm: Firm 1
Project/Assignment Duration: Project 2012-2015/Assigned
Owner Contact Information: NCDOT, Trent Beaver, tbeaver@ncdot.gov, (336) 903-9117
Design/Construction Value: $10 million (design and construction)
Project Description: Design-build replacement of fifteen bridges: two in Ashe, four in Avery, one in Caldwell, two in Watauga, and six in Wilkes Counties. Project included design services, construction services, permits, utility coordination, right of way acquisition, construction engineering and inspection. Bridges range in length from 35 feet to 125 feet, with average bridge length at 60 feet. Role on this project included multi-site construction management, and contract compliance, safety, scheduling, quality, and coordination with owner and Project Manager.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Mr. Culbertson is currently assisting on the Safe Harbor Marina project in Charleston. He will be 100% available to lend expertise in design constructability and build this project upon award.

Appendix B

Experience of Proposer's Team

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

WORK HISTORY AND QUALITY FORM – CROWDER CONSTRUCTION COMPANY

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design	c. Contact information of the Client & their Project Manager who can verify A's or B's responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by A or B (in thousands)
Name: Emergency Bridge Replacement 2020-2 Location: Wagener Rd. over South Fork Edisto River, Aiken County,	Name: Johnson, Mirmiran & Thompson, Inc. (JMT)	Name of Owner: SCDOT Project Manager: Bobby Usry, PE Phone: 803-641-7660 Email: UsryBM@scdot.org	08/2022 Design 02/2022 Construction	$ 6,305	$6,305

g. Narrative describing the work performed by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

The Crowder Design Build Team replaced an approximately 600' long bridge in Aiken County, SC along SC-4 over the South Edisto River. The new bridge was constructed in the same alignment therefore a complete detour was utilized. Although the main channel is only 90' wide, the 250' wide low-lying flats on each side of the channel created a wetland that posed an access challenge. Once utilities were relocated, we used a series of concrete and wooden mats for crane access out into the marshy areas. The foundation of the new bridge is composed of precast concrete composite piles with 30'+ long HP stingers that are then topped with cast-in-place caps. There are two types of superstructures associated with this bridge; on the 250'+ approach spans we utilized a 40' long span flat slabs system, and for over the main 90' channel, we used a more traditional approach with type III precast girders and an 8" cast in place deck. Due to our limited superstructure depth, the Roadway existing grade only needed to be raised less than a foot, which allowed us to do minimal approach work, approx. 75' each to each end of the bridge structure. To mitigate liquefaction in the approach fills due to this project being located in a seismic zone, we elected to do a reinforced fill comprised of layered uniaxial grid for maximum stabilization. The approaches were then paved and marked, and the associated guardrail was installed. Crowder additionally resurfaced +/- 300 LF of roadway on each end to deliver a high quality project for SCDOT. We maintain that the greatest challenge of this project was the time constraint and the manpower resources required. This 610' long bridge and the associated roadway was completed in less than 9 months and needed an average of 15 craft personnel for the duration of the project.

Key Individuals:
Mitchell Davis, PE – Project Manager
William Culbertson - Construction Manager

Relevance
Design Build
Flat Slab Design & Construction
Location Proximity

h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

Crowder managed through the emergency design build time constraint and completed the project three weeks in advance of substantial completion. The team separated out an early works design package to obtain approval for pile driving before the complete design submittal. We self-performed a section of tree and limb removal to allow quicker movement of a utility line 15-20 feet away as it was too close to the bridge construction area. Activities in the access area require strict discipline with equipment usage because the relocated utility line runs parallel to the bridge. Essential spotters were required for all crane activities affecting pile driving, girder erection and movement of heavy materials. The project is substantially complete with no claims, disputes or indication of litigation or arbitration.

i. Quality Initiatives. Discuss A's or B's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

Access was an additional challenge for which Crowder used wood and concrete mats in the marshy area as well as utilized space on the newly constructed deck for access for future pours (as in top-down construction). By designing the bridge combining flat slab, utilizing Crowder-owned forms, and cast-in-place concrete, we did not have to coordinate and wait on cored slabs making the tight schedule a proactively predictable project while mitigating cost and schedule concerns. The Crowder Design Build Team successfully partnered with SCDOT allowing proactive recognition, discussion and resolution of issues throughout the project earning an above average performance rating. Minor concrete repairs were engineered and repaired in place to the satisfaction of SCDOT on an otherwise high quality project.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, A or B shall provide a detailed explanation below.

All answers to the questions in Section 3.5.3. are "No" for this project.

WORK HISTORY AND QUALITY FORM – CROWDER CONSTRUCTION COMPANY

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design or construction	c. Contact information of the Client & their Project Manager who can verify A's or B's responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by A or B (in thousands)
Name: SCDOT File 5485020- SC9/49 Multi-Bridge Replacement, Location: Lockhart-Chester/Union Co.	Name: Project is Bid Build Mead & Hunt Engineer of Record	Name of Owner: SCDOT - Project Manager: (Wes Spencer-retired) Melanie Mobley PE District 4 Const. Engineer Phone:803-385-4233-O – 803-246-0065-C Email: mobleyMF@scdot.org	09/2020	$ 25,170	$25,170

g. Narrative describing the work performed by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

Crowder is submitting this project as evidence of experience with Flat Slab construction in conjunction with phased construction MOT at the Lockhart Drive bridge. This CAGC Pinnacle Award-Winning project consists of replacing four bridges; the largest of bridges is the 700' long SC 9/49 bridge over the Broad River. The second is a flat-slab bridge over the Lockhart Canal, which Lockhart Power uses to make power for small portion of the state, the third is Canal Road bridge and 4th is Lockhart Drive flat-slab bridge. The entire project was built with continuous traffic flow utilizing both new alignment and phased construction.

The Broad River bridge which was built in 1947, has had structural issues for the past few years and was closed for emergency repairs in 2017. This bridge was a challenge due to the river access, 90" diameter drilled shafts and 120,000# girders set out over the middle of the river. The Lockhart Canal bridge which was built in 1931, had challenges as it is designed to resemble the nearby historic pedestrian bridge, and was being built integral with the canal banks so the Federal Energy Regulatory Commission (FERC) has been heavily involved. The 1/2 mile of roadway included substantial temporary traffic shifts, two large MSE walls, and large temporary shoring walls; approximately 800' 6" & 8" DIP reinforced joint water lines, DIP reinforced joint sewer force main, as well as storm drain installation 15" to 48", catch basins, drop inlets, and manholes and, of course, erosion control, grading, and paving. Crowder removed a historic rock wall and delivered to the town for use in town signage, and replaced with a similar stamped concrete wall. Homes were monitored for vibration and foundation needs to maintain the integrity of the historic structures. Due to permitting and historic structures, interagency communication and coordination was required with SCDOT, Lockhart Power, FERC, SCDHEC, and SHPO. In total this was a three-year project.

Key Individuals:
Patrick Buckley, Project Manager
William Culbertson – Jobsite Superintendent

Relevance:
Flat Slab Construction / Phased MOT – Lockhart Drive Bridge

h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

Crowder closed the job with an excellent relationship with the SCDOT office of the resident engineer, as well as Lockhart Power, Mead & Hunt, and area residents. Crowder successfully value engineered the broad river and canal bridges by mitigating the environmental risk and FERC involvement with alternate plans for substructure construction methods. Canal pile driving and demolition of the old bridge coordinated during annual drawdowns for Lockhart Power did not adversely affect power operations. Our project management team worked in partnership to keep change orders to a minimum, to manage through the changed conditions that affected permitting and schedules. The project had quantity overruns, particularly with rock excavation of drilled shafts and sand fills in the canal zone. The project was completed within contract time with no liquidated damages. This three-year project was completed safely, within contract time and budget, in partnership with SCDOT, Lockhart Power, FERC, SHPO, and area residents.

i. Quality Initiatives. Discuss A's or B's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

There are no claims on the project. With the ongoing shortage of skilled craftsmen and the actions required for protection of our workforce during a pandemic, Crowder had the manpower ready, willing, and able to complete all aspects of our projects meeting our high-quality expectations.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, A or B shall provide a detailed explanation below.

All answers to the questions in Section 3.5.3. are "No" for this project.

WORK HISTORY AND QUALITY FORM –CROWDER CONSTRUCTION COMPANY

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design or construction	c. Contact information of the Client & their Project Manager who can verify A's or B's responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by A or B (in thousands)
Name: SCDOT File 4007610 - Emergency Design Build Pkg 6 Location: Richland County	Name: KCI Technologies Rock Hill, SC	Name of Owner: SCDOT Project Manager: Robert Power Phone: 803-796-9540 Email: PowerRW@scdot.org	Design - 08/2016 Construction - 01/2017	$5,885	$5,885

g. Narrative describing the work performed by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

Crowder quickly replaced three, flood-damaged bridges, in Hopkins, South Carolina, Crowder and KCI teamed on this Design Build Project. Design and Construction of The Back Swamp Bridge included the demolition of the existing 120' bridge, driving 1120 LF of H-Pile and constructing two end bents of 30 CY, cast-in-place concrete. It also required installation of 6000 LF of earthquake drains. The superstructure included 800 LF of 54" modified bulb tee girders, with an SIP metal deck base for the 200 CY concrete bridge deck. The project also included current standard approaches, barriers, guardrails, paving and striping and 6000 CY of full material.

The Bridge over Cedar Creek included demo of the existing 150' bridge, 1120 LF of driven H Pile, and 1440 LF of driven 24" Precast Concrete Pile. There are six each, cast-in place, 30 CY bents. The bridge deck was constructed utilizing Flat Slab forms and 500 CY cast in place concrete and is 170' long. Approach slabs were cast-in-place concrete and the project also included 1500 CY of fil material, standard barrier rails, guardrail, paving and striping.

Last but not least, the Dry Branch bridge included demolition of the existing 100' bridge, and was founded on 1120 LF of driven H-Pile and 720 LF of driven 24" Precast Concrete Pile. We installed another 6000 LF of Earthquake drains, cast-in- place four, 30 CY bents. The bridge deck was constructed utilizing Flat Slab forms and 300 CY of cast-in-place concrete and is now 170' long standard bridge. Also included were cast-in-place approach slabs, barrier rails, guardrail, paving and striping as well as 1500 CY of fill material… Total bridge length of the three was similar to total for proposed project.

Key Individuals:
Patrick Buckley – Project Manager
William Culbertson – Jobsite Superintendent

Relevance:
Design Build
Flat Slab Structure Design and Construction
Accelerated Schedule

h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

Project was a model of performance and quality construction for Crowder and KCI. There were no quality issues, project was completed within schedule, and there were zero change orders. Crowder and KCI managed through the tight design and construction needs of the community and SCDOT to design and construct three bridges in six months' time. Safety on the project was excellent with no OSHA recordable or lost time accidents. Communication with all stakeholders is paramount on these emergency projects. Everyone must know what is happening on the project and what challenges are being encountered so that the team can partner to solve issues before they impact the project.

i. Quality Initiatives. Discuss A's or B's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

The bridges were built simultaneously and sites were afforded the added value of sharing resources. Weekly Progress meetings were held with SCDOT and all interested stakeholders to ensure design schedules and construction schedules were met. These meetings give the opportunity for all to participate in the success of the project. Crowder and KCI truly partnered with SCDOT to assure avoidance of claims, client satisfaction and overall project success.

The project was completed on time with no liquidated damages and no cost overruns.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, A or B shall provide a detailed explanation below.

All answers to the questions in Section 3.5.3. are "No" for this project.

WORK HISTORY AND QUALITY FORM – CONTRACTOR/DESIGNER
TranSystems Corporation (TSC)

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design or construction	c. Contact information of the Client & their Project Manager who can verify TSC responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by TranSystems (in thousands)
Name: CSX Bridge Replacement over I-85 Location: Spartanburg, SC	Name: Blythe Zachary JV Crowder: CSX Bridge Sub-Contractor	Name of Owner: SCDOT Project Manager: Brad Reynolds, PE Phone: (803) 737-1440 Email: ReynoldsBS@scdot.org	Currently in Construction Professional Services Ongoing (Construction Support)	$25,000 Est.	$2,872

g. Narrative describing the work performed by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

TranSystems was awarded the I-85 MM77 to MM84 Design Build Prep project as the lead designer which included the design build prep (30% design) for the interstate widening along I-85 from MM77-MM84, and final signed and sealed plans development of the CSX over I-85 Bridge Replacement. The bridge project consisted of six retaining walls (four retaining walls adjacent to the bridge, and two retaining walls adjacent to the new tracks), and a new Thru-Plate Girder three-span structure with Vertical Abutments and Pier Walls. The bridge was designed at an approximate 45 degree skew due to the interstate geometry. To provide for the 18'-0" vertical clearance which was required, TranSystems designed a Thru-Plate Girder bridge, which provided a small structure depth and minimized the amount of interstate vertical alignment work by the contractor. The bridge, track work and associated retaining walls were signed and sealed and were lumped into the I-85 Phase 2 MM77-98 Design Build Project. The awarded contractor for I-85 Phase 2 MM 77-98 was Blythe Zachary Joint Venture, with Crowder Construction being a sub-contractor responsible for the CSX Bridge Replacement and associated retaining walls.

TranSystems was a part of the Blythe Zachary JV's design team winning bid, however upon SCDOT's request, TranSystems pulled out of the contractor's team to provide Owner's Rep services to SCDOT for construction services and support of the CSX Bridge Replacement project. Thus far, TranSystems has reviewed over 95 Shop Drawing submittals for the project, including but not limited to temporary shoring drawings/calculations, bridge demolition plans, structural steel shop drawings, erection plans, disc bearing and anchor bolt shop drawings, waterproofing details, and steel reinforcement shop drawings. TSC was the lead designer, with work being performed from our Greenville, SC and North Charleston, SC offices. The original project management for design was performed from our previous Charlotte, NC office.

Key Individuals:
Patrick Buckley, Construction Project Manager
Relevance:
SCDOT D/B Involvement

h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

TranSystems has prioritized this project for SCDOT. There have been a total of 95 shop drawing submittals and TranSystems regularly turns these submittals around within one to three days, which is much more accelerated than our allotted 3 week time frame. Once a potential plan revision became apparent, through either an RFI or a shop drawing review, TranSystems prioritized the plan revision for CSX Review, as the CSX Review is the critical path for incorporation into the construction of the project. Matt Rekers was involved in the project prior to 2019, assisting the previous TranSystems project manager with revisions, RFI responses and Shop drawing reviews, and became the main point of contact for SCDOT in 2019 and continues to be the main point of contact for the project.

i. Quality Initiatives. Discuss TranSystems Corporation's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

TranSystems implemented a RFI and Shop Drawing log to assist with responses and reviews for the contractor, and always made it an effort to turnaround these responses/reviews as quickly as possible for the contractor to stay on schedule. TranSystems regularly had open discussions with the contractor to avoid potential claims and to come up with solutions that were beneficial for all parties. TranSystems also emphasized the need for project meetings to discuss critical shop drawings, RFI's and general inquiries by the contractor to keep the project on schedule.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, TranSystems Corporation shall provide a detailed explanation below.

N/A – All responses to questions in Section 3.5.2 are "No".

WORK HISTORY AND QUALITY FORM – CONTRACTOR/DESIGNER
TranSystems Corporation (TSC)

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design or construction	c. Contact information of the Client & their Project Manager who can verify A's or B's responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by A or B (in thousands)
Name: Mt. Gallant Road Improvements & Bridge Replacement over Manchester Creek Location: Rock Hill, SC	Name: Construction Reinforcement / Carolina Panthers (Phases 1 & 2 to be bid in mid 2022; Phase 3 thereafter)	Name of Owner: Land Design Project Manager: Rob Keidel, PE Phone: (704) 333-0325 Ext. 1073 Email: rkeidel@landdesign.com	Construction: Est. begin Q4 2022 Professional Services: Construction Support (Est. Q4 2024) Design Services (Est. Q2 2022)	$47,000 Est.	$1,283

g. Narrative describing the work performed by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

TranSystems was originally awarded the Mount Gallant Road Improvements and Bridge Replacement over Manchester Creek project by York County in 2006, which was funded through the York County's Pennies for Progress program. The project was shelved due to funding multiple times during its history, and in early 2020 when TranSystems was preparing to sign and seal the project for construction letting the project was put on hold due to the Carolina Panthers Facility development adjacent to the roadway project. The Carolina Panthers took over the project in mid-2020, and decided to retain TranSystems for the development of the project. TranSystems is a sub-consultant to Land Design and is the engineer of record for the construction plan development of the three phases of the Mount Gallant Road Improvements and the Bridge Replacement over Manchester Creek. The project includes a 3-lane segment from SC 122/Dave Lyle Boulevard to John Ross Parkway (Phase 2), a 5-lane build out from John Ross Parkway to US 21/Anderson Road) (Phase 1), and improvements to US 21/Anderson Road to provide additional turn lanes at Mt. Gallant Road (Phase 3). Additionally, the existing bridge over Manchester Creek is being replaced. The proposed bridge consists of a skewed **three span continuous reinforced concrete flat slab structure**. The roadway widening will be completed utilizing phase construction and the roadway will be closed and traffic detoured during the bridge replacement. TranSystems performed the bridge hydraulic analysis and acquired a "No-Impact" certification for the FEMA Zone AE crossing at Manchester Creek. The development of the project was under an expedited schedule, as the Carolina Panthers wanted the improvements (especially Phase 1 which leads to the facility from US 21) to be completed prior to opening the facility. TranSystems started design on Phase 1 in June 2020, provided 30% submittal on Nov. 20, 2020, 70% submittal on Apr. 16, 2021, 95% submittal on Dec. 31, 2021. Phase 2 design was performed in consecutive sequence directly after Phase 1 submittals were submitted, with design starting in June 2020, 30% submittal on Nov. 20, 2022, 70% submittal on Jun. 14, 2021 and 95% submittal on Feb. 18, 2022. All work is performed from our Greenville, SC and North Charleston, SC offices.

Key Individuals:
Walker Roberts, PE

Relevance:
Accelerated Schedule
Flat Slab Bridge
FEMA no Impact
Maintenance of Traffic

h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

The project is being delivered under a very aggressive and strict schedule and TranSystems has met all submittals on time and within budget to date to avoid delays for construction. The design team has weekly coordination meetings, in addition to Internal Team bi-weekly meetings with the Carolina Panthers consultant (Construction Reinforcement) and Land Design to discuss the project including: status of roadway & bridge design plans, ROW parcel exhibits and acquisition, utility relocations, Norfolk Southern Railroad at-grade crossing and schedule review.

i. Quality Initiatives. Discuss TSC's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

The project was broken into three separate phases, as recommended by TranSystems, to meet the Carolina Panthers aggressive schedule for the project. With railroad involvement for the project, and from lessons learned from our CSX over I-85 project, we conveyed to the Carolina Panthers project team that railroad coordination can significantly delay a project, and therefore split the project into critical segments to meet the opening date of the Carolina Panthers facility, with Phase 1 being the critical path. In addition, dividing the two phase into two segments, even though required two permits, it separated the bridge replacement and environmental issues from the critical path scheduled widening of Mt. Gallant Road Phase 1. The project team has bi-weekly meetings, with the Carolina Panthers construction scheduling and cost estimating team attending frequently to ensure that the overall cost and schedule for construction meets the Carolina Panthers' needs.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, A or B shall provide a detailed explanation below.

All answers to the questions in Section 3.5.3. are "No" for this project.

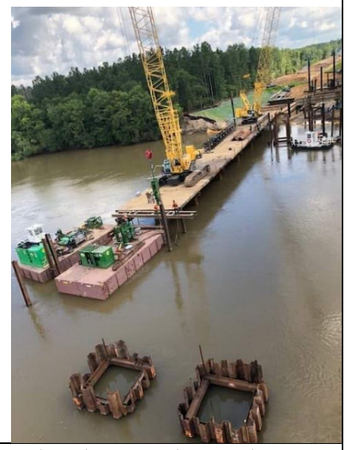
WORK HISTORY AND QUALITY FORM – CONTRACTOR/DESIGNER
NOVA, Inc.

a. Project Name & Location (City, State)	b. Name of lead responsible for the overall project design or construction	c. Contact information of the Client & their Project Manager who can verify NOVA's responsibilities	d. Actual or Estimated Construction & Professional Services Completion Date	e. Actual or Estimated Project Construction Cost (in thousands)	f. Dollar Value of Work Performed by NOVA (in thousands)
Name: GDOT Design Build SR 135 Bridge Replacement over Altamaha River Location: Jeff Davis and Montgomery Counties, GA	Name: Scott Bridge Company	Name of Owner: Heath & Lineback Project Manager: Gary Lineback, PE Phone: (678) 569-2461 Email: GLineback@Heath-Lineback.com	Construction: Est. 06/2022 Design Services: 05/2019 Construction Support: Est. 06/2022	$22,510	$100

g. Narrative describing the work performed by by A or B. If submitting work completed by an affiliated or subsidiary company of A, identify the full legal name of the affiliate or subsidiary and their role on the Project. Include the office location(s) where the design work was performed and whether B was the lead designer or a sub-consultant.

NOVA is the lead geotechnical engineer for this design build project. The Project consisted of geotechnical design and construction services to replace the State Route (SR)135 bridge at the Altamaha River. The project site was located in the Coastal Plain of Georgia, on the border of Jeff Davis and Montgomery Counties, GA, and presented challenges during design and construction due to the complex geology of the site which created difficult pile driving conditions, including pile relaxation (a very rare condition) and pile set-up. The approximately 1 mile long project included LRFD design and construction of a 2,640 foot, 23 span bridge over the Altamaha River. NOVA designed open-ended pipe pile foundation design including estimated pile lengths and preliminary drivability evaluation, performed slope stability analyses at the end bent locations for the roadway approach embankments, and preparing a Geotechnical Engineering Report. NOVA also provided geotechnical support during construction including pile driving installation plan review and comment, static and dynamic pile load testing, setting pile production length and establishing pile driving criteria from the pile load testing program, and geotechnical support in answering RFI's from the Contractor and other members of the Design-Build Team. NOVA is a sub-consultant and performed the geotechnical investigations and analysis and construction support from their Atlanta, GA office.

Relevance:
Design Build
Complex Geotechnical Analysis



h. Self-Assessment. The information provided in this section should be a self-assessment of A's or B's performance on the project to identify As or Bs with firms or personnel that have successfully completed projects on time and on or under budget, and to identify As or Bs that have records of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration.

NOVA's performance in the design stage was on-time and within budget. The geotechnical design was approved by GDOT based on NOVA's knowledge and experience combined with the implementation of solid QA/QC standard protocols that NOVA has implemented for our projects. Designers provided construction support throughout the project by reviewing submittals, testing results, pile driving records, etc. and making recommendations in a timely manner so as not to delay the Contractor or the delivery of the project.

i. Quality Initiatives. Discuss A's or B's quality initiatives including, but not limited to, cost control, schedule management and adherence, avoidance of claims, and other pertinent initiatives enhancing quality on the project.

In addition to our internal project meetings, NOVA operates by utilizing our Senior Review QA/QC Program. NOVA requires a minimum of two signatures on all documents – one of which is by a Senior Technical Professional (STP). To be considered one of our STP's, a management professional must go through several rounds of training. The final step is a in person examination in front of our Board of Directors. With all of these steps, NOVA ensures that only our most knowledgeable and poised professionals are taking the lead on reviewing the quality of project documents sent to our valued clientele.

j. For each question in Section 3.5.2 of the RFQ for which a "Yes" answer was provided, NOVA shall provide a detailed explanation below.

N/A – the response to all questions in Section 3.5.2 is "no"

Appendix C

Quality of Past Performance

75 YEARS 1947 2022 CROWDER

TranSystems

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The Crowder - TranSystems team do not have any projects completed in the last five years that meet any of the below stated criteria from 3.5.2.

3.5.2 Quality of Past Performance

Has the Lead Contractor or any member of the joint venture been declared delinquent or placed in default on any Project?

1. Has the Lead Contractor or any member of the joint venture submitted a claim on a project that was litigated? If litigated, explain the results.

   For all projects, the response is "no".

2. Have any projects been delayed more than 30 days such that liquidated damages were assessed?

   For all projects, the response is "no".

3. Has the Lead Contractor been cited by OSHA for violations deemed serious, willful, or repeated?

   For all projects, the response is "no".

4. Have any projects under contract with the Lead Contractor or any member of the joint venture been subject to remediation actions, stop work orders, or project delays in excess of 30 days as a result of Section 404/Section 401 permit violations?

   For all projects, the response is "no".

5. Has an owner, a Lead Contractor, or any member of a joint venture pursued compensation from the Lead Designer due to errors and omissions?

   For all projects, the response is "no".

6. Has the Lead Designer filed legal proceedings against the Lead Contractor, or vice versa, on a design-build contract?

   For all projects, the response is "no".

Appendix D

Financial Capacity, Bonding Capability, & Organizational Agreements

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

PO Box 30007 (28230-0007)
6409 Brookshire Boulevard (28216)
Charlotte, North Carolina
Telephone: 704.332.8184 Fax 704.372.9946
www.crowdercc.com

CROWDER 75 YEARS 1947 2022

PROPOSER'S AFFIDAVIT OF FINANCIAL CAPACITY

Crowder Construction Company has the financial capacity and resources necessary to complete the US 301 Over Four Hole Swamp Design-Build Project, Project ID 0040308, ORANGEBURG COUNTY as proposed herein. A letter from our bonding company attesting to our good standing and bonding capacity is attached.

George F. Ellis, Vice President

April 11, 2022

Subscribed and witnessed before me this 11th day of April 2022.

Teresa W. Matthews, Notary Public

My Commission Expires August 1, 2025

TERESA W. MATTHEWS
NOTARY PUBLIC
GASTON COUNTY, N.C.

USI Insurance Services
6100 Fairview Drive
Suite 1400
Charlotte, NC 28210
www.usi.com
Tel: 704.543.0258

March 31, 2022

Ms. Carmen Wright
Office of Project Delivery
South Carolina Department of Transportation
955 Park Street, Room 101
Columbia, South Carolina 29201

RE: Our Client: Crowder Construction Company
Project: US 301 Over Four Hole Swamp Design-Build Project ID 0040308 Orangeburg County

Dear Ms. Wright:

Liberty Mutual Insurance Company has met the bonding needs of Crowder Construction Company since 1996. Crowder has a single bonding capacity of $300,000,000 and their aggregate bonding capacity is $800,000,000. They have an unutilized bonding capacity of $200 million.

Based on Crowder Construction Company's prior experience and based on present circumstances and bonding capacity, Liberty Mutual Insurance Company will be willing to provide bid, performance and payment bonds on requested projects Crowder Construction Company undertake.

Subject to the normal underwriting considerations, including, but not limited to current financial information, final contract terms, conditions and construction financing, we would be most willing to work with them on a 100% Performance and Payment Bond requirement, in the event that they are awarded a contract and enter into a contract which is satisfactory to all parties. We assume no liability to third parties or to you if for any reason we do not execute said bonds.

Liberty Mutual Insurance Company is on the U.S. Department of Treasury's Listing of Approved Sureties (Department Circular 570) Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, carries an A.M. Best Rating of A (Excellent) with a Financial Size Category of XV ($2 Billion or greater), and is licensed to act as surety in all fifty states.

If I may provide any additional information, please don't hesitate to let me know.

Sincerely,

Liberty Mutual Insurance Company

Jennifer C. Hoehn
Attorney-In-Fact

Seal No. 4763

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8202325-969489

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Donna K. Ashley; Jacqueline Hampton; Jennifer C. Hoehn; John D. Leak, III; J. David Pollack, Jr.; William J. Quinn; Angela D. Ramsey; G. Timothy Wilkerson all of the city of Charlotte, state of NC each individually if there be more than one named, its true and lawful attorney-in-fact, with full power and authority hereby conferred to sign, execute and acknowledge the above-referenced surety bond.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 10th day of October, 2019.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 10th day of October, 2019, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-infact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company do hereby certify that this power of attorney executed by said Companies is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this _____ day of _____, _____.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00am and 4:30pm EST on any business day.

Appendix E

Organizational Conflict of Interest

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

DISCLOSURE OF POTENTIAL CONFLICT OF INTEREST CERTIFICATION

PROPOSER hereby indicates that it has, to the best of its knowledge and belief has:

_X_ Determined that no potential organizational conflict of interest exists.

_____ Determined a potential organizational conflict of interest as follows:

Attach additional sheets as necessary.

1. Describe nature of the potential conflict(s):

2. Describe measures proposed to mitigate the potential conflict(s):

Signature

April 11, 2022
Date

George F. Ellis, Vice President
Print Name

Crowder Construction Company
Company

If a potential conflict has been identified, please provide name and phone number for a contact person authorized to discuss this disclosure certification with Department of Transportation contract personnel.

Name

Phone

Company

Appendix F

Confidential or Proprietary Information Summary List

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

Information contained within our Statement of Qualifications is not confidential or proprietary.

Appendix G

Acknowledgment of Addenda

75 YEARS 1947 2022 CROWDER

TranSystems

EXPERIENCE | Transportation

South Carolina
Department of Transportation

NOTICE OF RECEIPT

US 301 over Four Hole Swamp
Design-Build – Project ID 0040308
Orangeburg County

Addendum 1

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

PROPOSERS are required to sign this document and enclose it with their Statement of Qualifications. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

Confirmation Statement:

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

PROPOSER's Signature

April 11, 2022
Date

George F. Ellis
Printed Name

For: Crowder/TranSystems
Design-Build Team Name

Appendix H

Key Individual Reference Form

75 YEARS 1947 2022 CROWDER

TranSystems

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South Carolina Department of Transportation

Email	First Name	Last Name	Company Name	Project Name	Team
Contractor & Design Firm Project References					
mobleyMF@scdot.org	Melanie	Mobley	South Carolina Department of Transportation	SC9 Bridges over Broad River, Lockhart Canal, Canal Road and Lockhart Drive - SCDOT File 5485020	Crowder
PowerRW@scdot.org	Robert	Power	South Carolina Department of Transportation	Emergency DB Pkg 6 - Richland County - SCDOT File No. 4007610	Crowder
UsryBM@scdot.org	Bobby	Usry	South Carolina Department of Transportation	Aiken Emergency DB-Wagener Rd over South Fork Edisto River - SCDOT File No. 0259250	Crowder
rkeidel@landdesign.com	Rob	Keidel	Land Design	Mt. Gallant Road Improvements & Bridge Replacement over Manchester Creek	TranSystems
ReynoldsBS@scdot.org	Brad	Reynolds	South Carolina Department of Transportation	CSX Bridge Replacement over I-85	TranSystems
glineback@heath-lineback.com	Gary	Lineback	Heath-Lineback	GDOT Design Build SR 135 Bridge Replacement over Altamaha River	NOVA
Prior Collaboration References					
ReynoldsBS@scdot.org	Brad	Reynolds	South Carolina Department of Transportation	CSX over I-85 Bridge Replacement, Spartanburg County, SC	Crowder/TranSystems/Three Oaks
ParrisSL@scdot.org	Shane	Parris	South Carolina Department of Transportation	CSX over I-85 Bridge Replacement, Spartanburg County, SC	Crowder/TranSystems/Three Oaks
travenel@palmettorail.com	Tarek	Ravenel	Palmetto Railways	Navy Base Intermodal Facility South, Palmetto Railways Bridge over Noisette Creek, Charleston, SC	Crowder/TranSystems
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ddetoma@charlestoncounty.org	Devri	Detoma	Charleston County	Bees Ferry Road Widening and Bridge Replacement over Church Creek	TransSystems/Three Oaks
ken.mcduff@nv5.com	Ken	McDuff	NV5	SR156 Bridge Replacement over Salacoa River and Overflow	TranSystems/NOVA
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South Carolina Department of Transportation

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bodifordCA@scdot.org	Clay	Bodiford	Mitchell Davis	Spruill & O'Hear Avenue bridges over Noisette Creek, Charleston County - SCDOT File 10.038226R2	Asst. Project Mgr.	Crowder
chood@ncdot.gov	Cole	Hood	Mitchell Davis	Express DB Low Impact Bridges Div 13-9 bridges Buncombe, Burke, Madison, Mitchell and Rutherford Counties - C202716	Asst. Project Mgr.	Crowder
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cmcurran@laneconstruct.com	Chad	Curran	Walker Roberts	I-85 Phase 3 Widening MM 98 to 106 Design Build	Senior Roadway Engineer	Lane