



JUNIPER/TRINITIE TRAIL BRIDGE REPLACEMENT

TOWN OF SOUTHERN SHORES

Stewart

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stewartinc.com

NOVEMBER 4, 2022



STEWART



November 4, 2022

David Bradley, Public Works Director
Town of Southern Shores
5375 N. Virginia Dare Trail
Southern Shores, NC 27949

RE: Request For Qualifications For Professional Engineering Services: Planning and Design Services for the Juniper/Trinitie Trail Bridge Replacement Project

Dear Mr. Bradley,

The Town of Southern Shores is embarking on an important project in the replacement of the Juniper/Trinitie Trail Bridge Replacement project. Stewart understands that the town has experienced a recent increase in vehicular traffic, as tourists choose to travel on town roads in lieu of US 158 and NC-12. This cored slab concrete bridge will serve to replace the failing culvert over Canvas Back Canal on Trinitie Trail, thus improving accessibility to residents and tourists alike.

We are familiar with the Town from our current work on the Southern Shores Comprehensive Plan. I am leading our team of planners working with the town, and I will also serve as Principal-in-Charge on this bridge replacement project. We would like to be the firm that can partner with you for all of your needs, from long range planning to design projects that we shepherd to completion. We are committed to helping you achieve the vision you have for your town.

To complement our experience, we have partnered with **VHB** to provide natural systems, hydraulic design, permitting, and Erosion Control.

ADDITIONAL INFORMATION

- **Focus on Quality and Delivery** – The Stewart team prioritizes delivery of our client’s needs with high quality deliverables ahead of schedule. We regularly receive evaluations of 8+ to 9+ on a scale of 1 to 10 before NCDOT revamped the evaluation process. Now, with the new scale, Stewart continues to receive high marks from our various NCDOT clients. Our highest marks are usually in the meeting schedule and responsiveness categories.
- **Experienced Project Leadership** – I will serve as Principal-In-Charge. My 30 years with NCDOT allowed me to be involved in complex planning and design projects statewide and during my last 5 years at NCDOT I served as Assistant State Roadway Design Engineer, which allowed me to provide high level guidance on important projects to the mobility of the state. Our design managers both have significant experience on NCDOT projects, David Ruggles with over 40 years doing bridge designs and Andy Young with NCDOT experience in the Roadway Design and Design-Build Groups coupled with his private firm experience at Stewart.
- **Strong Experienced Team** – The Stewart team brings many years of experience working together on multifaceted projects to deliver bridge replacement projects. The experience of Stewart’s staff allows us to create a team that will bring new ideas and “out of the box” thinking to any on-call assignments.

We appreciate the opportunity to submit this Statement of Qualifications response. We look forward to the prospect of working with you on this project. Please call me at **919.866.4761** or email at **dtaylor@stewartinc.com** should you have any questions or need additional information.

Sincerely,
STEWART

Doug Taylor, PE
Vice President | Practice Leader, Transportation

STEWART'S CONTACT PERSONS

Principal-in-Charge:
Doug Taylor, PE
919.866.4761 • dtaylor@stewartinc.com

Project Manager:
David Ruggles, PE, LEED AP
919.866.4717 • druggles@stewartinc.com



Doug Taylor, PE, CPM – Doug has over 38 years of engineering and progressive leadership experience focused in staff development, change management, policy/program development and supervision. He is well-versed in AASHTO, Complete Streets, value engineering and context-sensitive guidelines with an emphasis on innovative solutions. Through the Greenway Task Force, he has provided advice and review for Greenville Loop and Masonboro Loop projects.



David Ruggles, PE, LEED AP – David has 44 years of experience. He has a comprehensive background in bridge and roadway design and has managed a large number of complex projects including multi-level interchanges, bridge rehabilitations and ratings, bridge and roadway widenings, steel curved continuous plate girders, and prestressed concrete girders, in addition to several complex pedestrian bridge projects.



Jeff Wilson, PE – Jeff has more than 12 years of experience specializing in bridge design. His background includes work with cored slab, prestressed concrete girders, steel plate girders, and substructure elements. In addition, he has experience in culvert design, retaining wall design, bridge widening projects, and greenway structures.



Vivian Chung, PE – Vivian has six years of experience in the structural engineering field, including four years with Stewart. Vivian has worked on various projects ranging from multi-family residential buildings, office buildings, as well as pedestrian bridges to grade separation bridges over interstates.



Andy Young, PE – Andy has more than 19 years of roadway design experience with The North Carolina Department of Transportation (NCDOT). His responsibilities included overseeing the design effort for Roadway, Traffic Management, Pavement Marking, and Signing disciplines. With this, he ensures projects schedules are maintained and/or advanced while producing plans that conform to the proper standards and are of the highest quality. He is well-versed in AASHTO, NCDOT Standards, NCDOT Policy and Procedures, MicroStation, Geopak, and Corridor Modeling.



Michael Burns, PE – Michael has nine years of engineering experience in both design and construction. He serves as a design engineer, who utilizes his strong knowledge of Microstation, GEOPAK, and Corridor Modeler to produce high quality roadway design for Bridge Replacements. He excels at project coordination activities including utility coordination, client communication, and schedule management.



Josh Roemer, PE – Joshua joined Stewart immediately after graduating from The Pennsylvania State University with a degree in Civil Engineering. Since joining Stewart in 2018, Joshua has served as a Roadway Designer for various NCDOT projects, including several bridge replacement projects.



Harrison Wenchell – Harrison is a transportation planner with more than six years of experience. He has established contacts across North Carolina with municipalities, utility owners, and NCDOT staff. Harrison's meticulous approach and effective communication have successfully proven that he is capable of leading projects with varying scale and complexity in order to deliver the highest quality product.



Joan Lyons, AICP – Joan currently serves as a Transportation Planner at Stewart where she develops various types of environmental and public participation planning documents. Her diverse portfolio of projects varies from bridge replacements and intersection improvements to interchange reconfigurations and lengthy widening projects throughout the State of North Carolina.



Ryan Davenport, PLS – With over 26 years of progressive surveying experience, Ryan has acquired skills in data collection and data processing as well as project management and business development. He has worked in varying capacities on high-profile projects in and around North Carolina and the Research Triangle Park, including projects for the North Carolina Department of Transportation.



Don Brown, PE, LEED AP – Don is Practice Leader of the Geotechnical and Construction Services group. In this role he is responsible for ensuring client satisfaction, consulting, in-house interdisciplinary collaboration and training, managing personnel, and business development. Don is also the Senior Geotechnical Engineer at Stewart.

DIVISION 5 LOW IMPACT BRIDGE REPLACEMENTS
TRANSPORTATION PLANNING & DESIGN



LOCATION

Person, Warren, Vance, Wake & Franklin Counties, NC

OWNER

NCDOT
Lisa Gilchrist
Bridge Program Manager
2612 N. Duke Street
Durham, NC 27704
919-317-4700

DATES

Start: 2014
Completion: On-going
Assignment

CONSTRUCTION COST

\$30 M

PROJECT OVERVIEW

Stewart designed 16 low impact bridge replacements in counties covered by Division 5. Stewart’s scope included roadway design, structure design, traffic control, pavement marking, and utility coordination. The scope included one TIP project (B-5102) for replacement of a bridge on US 158 over South Hyco Creek. Bridge types included cored slab, box beam, and prestressed concrete girders. For the three most recent projects in Vance County, Stewart provided the functional planning, coordination and design required to prepare for the field scoping meeting that begins the final planning and design process. **(Assigned through the Central Region On-Call)**

BRIDGE NO. 37 ON NC 55 OVER BRANCH OF TRENT CREEK
BRIDGE DESIGN



LOCATION

Pamlico County, NC

CLIENT/OWNER

NCDOT Structures Management Unit
David Stutts, PE, Project Engineer - PEF/Program Management
1000 Birch Ridge Drive
Raleigh, NC 27610
919.707.6442
dstutts@ncdot.gov

DATES

Start: 2019
Completed: 2024, Est.

CONSTRUCTION COST

\$2.45 M

LENGTH

85 feet

PROJECT OVERVIEW

This project replaces bridge no. 37 on NC 55 over Branch of Trent Creek in Pamlico County. The proposed structure will be an approximately 85-foot-long, two-span, cored slab design. Since no reasonable off-site detour is available, the bridge will be stage constructed to allow traffic to continue through.



Stage Constructed Cored Slab Design

BRIDGE NO. 8 ON NC 12 OVER THE SLASH
BRIDGE DESIGN



LOCATION

Dare County, NC

CLIENT/OWNER

NCDOT Structures Management Unit
David Stutts, PE, Project Engineer - PEF/Program Management
1000 Birch Ridge Drive
Raleigh, NC 27610
919.707.6442
dstutts@ncdot.gov

DATES

Start: 2019
Completion: 2024, EST.

CONSTRUCTION COST

\$3.3 M

PROJECT SIZE

95 feet

PROJECT OVERVIEW

This project replaces bridge no. 8 on NC 12 over the Slash in Dare County. The proposed structure will be an approximately 95-foot-long, two-span, pre-stressed concrete girder design. The roadway will be a curb and gutter section with 15-foot lanes and 5-foot sidewalks on both sides. With this project located on NC 12 in Hatteras, we are looking to provide increased pedestrian connectivity with construction in the winter months.

This project had a public request to reduce impacts late in the design process. The Stewart Team reacted to the request and we are taking a revised design to the public this month. Stewart is dedicated to providing the residents of Southern Shores with opportunities for involvement and will remain flexible in our approach until final drawings are approved.

BRIDGE NO. 9 ON SR 1112 OVER BLOUNTS CREEK
BRIDGE DESIGN



LOCATION

Beaufort County, NC

CLIENT/OWNER

NCDOT Structures Management Unit
David Stutts, PE, Project Engineer - PEF/Program Management
1000 Birch Ridge Drive
Raleigh, NC 27610
919.707.6442
dstutts@ncdot.gov

DATES

Start: 2019
Completion: 2023, Est.

CONSTRUCTION COST

\$6.8 M

LENGTH

950 feet

PROJECT OVERVIEW

This project replaces bridge no. 9 on SR 1112 over Blounts Creek in Beaufort County. The proposed structure will be an approximately 950-foot-long, eight-span, pre-stressed concrete girder design. The roadway alignment has been shifted to a new alignment to correct existing horizontal geometry in the area.

RELATED PROJECT HIGHLIGHTS

Highly Corrosive Zone, CAMA Coordination, Boater Safety Plan

BRIDGE NO. 24 ON NC 222 OVER THE TAR RIVER
BRIDGE DESIGN



LOCATION
Pitt County, NC

CLIENT/OWNER
NCDOT Structures Management Unit
David Stutts, PE, Project Engineer - PEF/Program Management
919.707.6442
dstutts@ncdot.gov

DATES
Start: 2019
Completion: 2024, Est.

CONSTRUCTION COST
\$11.5 M

PROJECT SIZE
975 feet

PROJECT OVERVIEW

This project replaces bridge no. 24 on NC 222 over the Tar River in Pitt County. The proposed structure will be an approximately 975-foot-long, ten-span, pre-stressed concrete girder design. The project will be constructed utilizing an off-site detour in which extra coordination was needed with local emergency services. In addition, there is an existing boat ramp with parking facility adjacent to the roadway. The horizontal alignment and rock plating were used to eliminate impacts to this facility.

When this project was delayed for 2 years due to funding, we initiated a public meeting to update the public on the current design. The Stewart team is a valued asset in developing cost effective design solutions and securing government funding for our clients.

BRIDGE NO. 36 ON NC 55 OVER THE SOUTH PRONG BAY RIVER
BRIDGE DESIGN



LOCATION
Pamlico County, NC

CLIENT/OWNER
NCDOT Structures Management Unit
David Stutts, PE, Project Engineer - PEF/Program Management
1000 Birch Ridge Drive
Raleigh, NC 27610
919.707.6442
dstutts@ncdot.gov

DATES
Start: 2019
Completed: 2024, Est.

CONSTRUCTION COST
\$5.3 M

PROJECT SIZE
85 feet

PROJECT OVERVIEW

This project replaces bridge no. 36 on NC 55 over the South Prong Bay River in Pamlico County. The proposed structure will be an approximately 85-foot-long, three-span, pre-stressed concrete girder design. With the presence of an existing middle school, additional measures had to be used to insure connectivity during construction.



Coordinating with Environmental Agencies to balance capacity needs for the school with wetland impact reductions.

NCDOT DIVISION 5 BALTIMORE ROAD BRIDGE REPLACEMENT | WARREN COUNTY, NC

VHB provided the performed hydraulic design, erosion control design, and permit drawings for the 60-foot single span cored slab bridge replacement carrying Baltimore Road over Richneck Creek in Warren County. The super structure sits on pile end bents. Stewart served as the prime consultant on this project, responsible for Roadway Design, Planning, Traffic Control, Pavement Marking, Structure Design, Geotechnical Engineering, Utility Design and Utility Coordination during design and construction.

<p>OWNER Lisa Gilchrist, EI, Bridge Program Manager 919.733.4699 lgilchrist@ncdot.gov</p>	<p>DATE 2016-2020</p>	<p>DISCIPLINES Hydraulic Design, Erosion Control, and Permitting</p>	
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NCDOT DIVISION 8 R-2527 | MONTGOMERY COUNTY, NC

VHB provided the hydraulic design of 9 miles of roadway widening on NC 24-27 through sections of the Uwharrie National Forest in Montgomery County. VHB conducted extensive coordination with environmental agencies to avoid and minimize environmental impacts throughout the project. The design included nine culvert replacements with four of the crossings located in FEMA Limited Detailed Studies. VHB also conducted the Sediment and Erosion Control Plans as well as Permit Drawings and agency coordination through the merger process.

<p>OWNER Brook Anderson NCDOT Hydraulics Unit 919.707.6706 beanderson@ncdot.gov</p>	<p>DATE Ongoing</p>	<p>DISCIPLINES Hydraulic Design, Sediment and Erosion Control</p>	
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»» THE STEWART DIFFERENCE

Stewart is founded on collaboration, both internally and externally. We combine multiple disciplines under one roof in an effort to increase sharing of ideas and efficiency. Our Transportation Engineers, Planners, Geotechnical Engineers and Surveyors work in unison with team leaders from each discipline. This creates a dynamic relationship of sharing of ideas and constraints. We collaborate with other consultants through every phase in order to bring everyone’s expertise to the table, and create a richer experience for our clients. We work with consultants with whom we have previously worked and have developed a strong relationship.



STEWART LITIGATION HISTORY

Stewart has performed thousands of projects over the last 28 years, the vast majority of which without any disputes or claims. A project for Wake Technical Community College involving two pedestrian bridges that were designed in 2013 resulted in claims and legal proceedings against Stewart Engineering and other parties. Since 2015, Stewart Engineering has reached confidential settlements with certain claimants including Wake Technical Community College. Settlement negotiations to resolve the remaining claims and legal proceedings are ongoing and Stewart Engineering remains confident in its ability to defend and/or reach a settlement that is satisfactory to all parties. It is important to note in the limited situations where a dispute has arisen that Stewart is proud of our past performance in resolving disputes quickly and amicably on behalf of all parties.

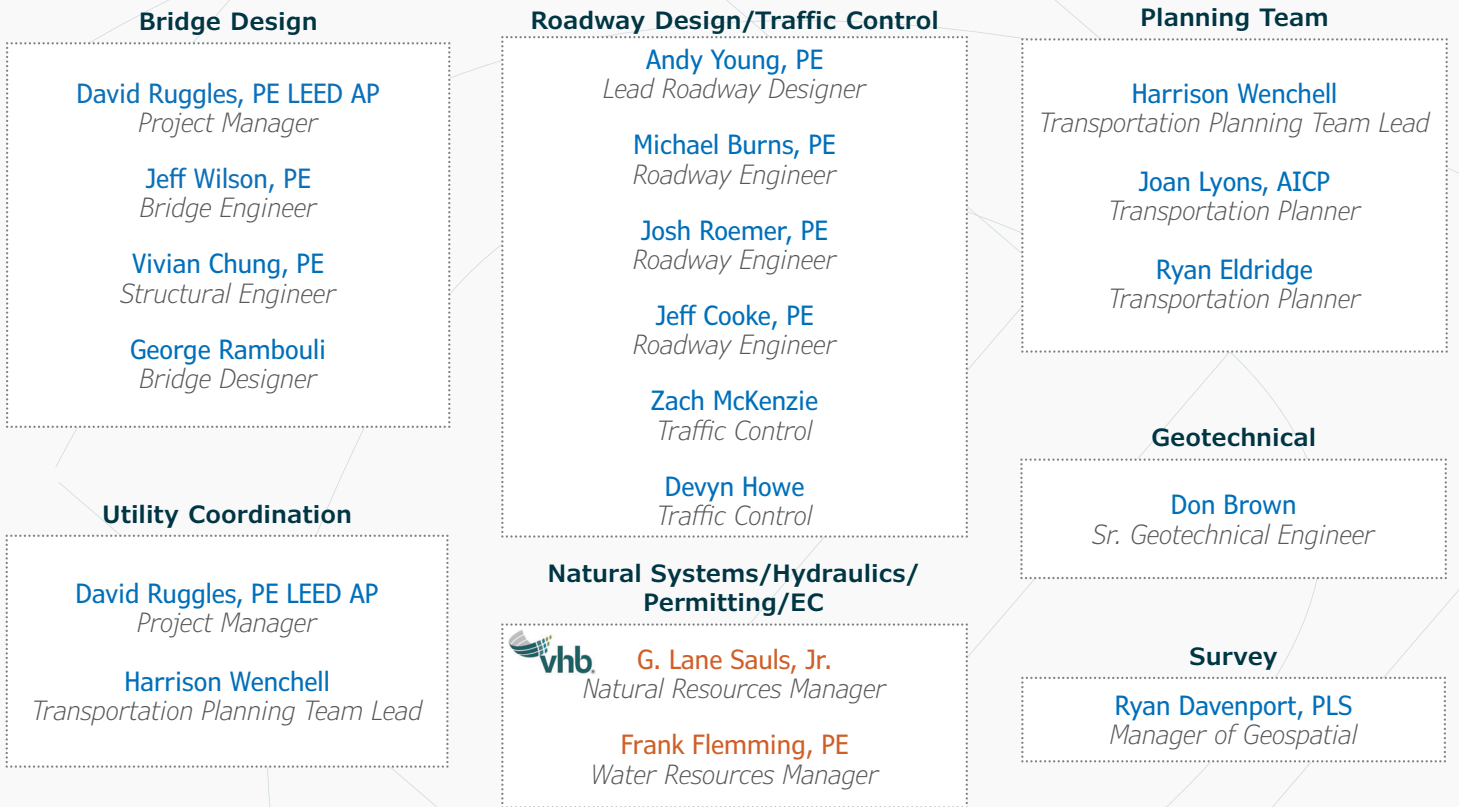
TEAM ORGANIZATIONAL CHART



DOUG TAYLOR PE CPM
PRINCIPAL-IN-CHARGE



DAVID RUGGLES PE LEED AP
PROJECT MANAGER





DOUG TAYLOR PE, CPM

ROLE: PRINCIPAL-IN-CHARGE
TITLE: VP | PRACTICE LEADER, TRANSPORTATION & PLANNING

Doug has over 38 years of engineering and progressive leadership experience focused in staff development, change management, policy/program development and supervision. He previously served as Assistant State Roadway Design Engineer with NCDOT, managing projects in Divisions 10 through 14. His responsibilities included managing the designs and schedules of highway projects, changes in staff, outsourcing project work to private engineering firms and delivering highway projects on budget and on schedule. He is well-versed in AASHTO, Complete Streets, value engineering and context-sensitive guidelines with an emphasis on innovative solutions. Before serving as Assistant State Roadway Design Engineer, he served as both Project Engineer and Project Design Engineer with NCDOT. He currently serves as Practice Leader of Transportation, which provides planning and design services to DOT, Municipal and private clients. As part of an internal initiative to ensure consistent multi-modal delivery, Doug leads a Mobility Task Force that meets regularly to review our greenway and multi-modal projects.

RELEVANT EXPERIENCE

B-5610, Bridge No. 8 on NC 12 over the Slash | Dare County, NC

Principal-in-Charge | This project replaces bridge no. 8 on NC 12 over the Slash in Dare County. The proposed structure will be an approximately 95-foot-long, two-span, pre-stressed concrete girder design. The roadway will be a curb and gutter section with 15-foot lanes and 5-foot sidewalks on both sides. With this project located on NC 12 in Hatteras, we are looking to provide increased pedestrian connectivity with construction in the winter months.

B-5616, Bridge No. 37 on NC 55 over Branch of Trent Creek | Pamlico County, NC

Principal-in-Charge | This project replaces bridge no. 37 on NC 55 over Branch of Trent Creek in Pamlico County. The proposed structure will be an approximately 85-foot-long, two-span, cored slab design. Since no reasonable off-site detour is available, the bridge will be stage constructed to allow traffic to continue through.

B-5613, Bridge No. 36 on NC 55 over the South Prong Bay River | Pamlico County, NC

Principal-in-Charge | This project replaces bridge no. 36 on NC 55 over the South Prong Bay River in Pamlico County. The proposed structure will be an approximately 85-foot-long, three-span, pre-stressed concrete girder design. With the presence of an existing middle school, additional measures had to be used to insure connectivity during construction.

B-4830, B-4655, B-5166 & B-4943 | Division 5, NC

Principal-in-Charge | This assignment consisted of bridge replacements at various locations in Division 5. The projects included planning, roadway and hydraulic design, traffic management and pavement marking plans. (Assigned through the Planning and Design On-Call)

B-5614, Bridge No. 9 on SR 1112 over Blounts Creek | Beaufort County, NC

Principal-in-Charge | This project replaces bridge no. 9 on SR 1112 over Blounts Creek in Beaufort County. The proposed structure will be an approximately 950-foot-long, eight-span, pre-stressed concrete girder design. The roadway alignment has been shifted to a new alignment to correct existing horizontal geometry in the area.

B-5400, Bridge Replacement on SR 3466 | Candler, NC

Principal-in-Charge | This project replaces the existing bridge with a new structure in a new location. The project's schedule was very aggressive with Right of Way Plans being completed in six months. Along with completing the Roadway Design, we also completed the Signing and Pavement Marking Plans.

EDUCATION

Associate of Applied Science in Civil Engineering Technology
 Asheville-Buncombe Technical Community College

REGISTRATION

Professional Engineer (PE):
 North Carolina #30984

National Certified Public Manager's Consortium
 Certified Public Manager (CPM)



DAVID RUGGLES PE, LEED AP

ROLE: PROJECT MANAGER | BRIDGE DESIGN | UTILITY COORDINATION
TITLE: MANAGER, BRIDGE DESIGN

David has practiced civil engineering for over 44 years, including 26 years with Stewart. He has a comprehensive background in bridge and roadway design and has managed a large number of complex projects including multi-level interchanges, bridge rehabilitations and ratings, bridge and roadway widenings, steel curved continuous plate girders, and prestressed concrete girders, in addition to several complex pedestrian bridge projects. David led the design effort for Neuse River Trail Project, which included seven bridges spanning the Neuse River, two of which were custom suspension bridge designs. He also has extensive experience in coordination with NCDOT.

RELEVANT EXPERIENCE

Bridge on Perry Road (SR 1514) over Big Swamp Tributary, NCDOT TIP B-3810 | Beaufort County

Project Engineer | David served as project engineer for a replacement bridge utilizing prestressed cored slabs on concrete pile bents. The bridge was staged since there were no off-site detour routes available. Scope of work included roadway approaches, traffic control plans and utility coordination.

NCDOT BD-5101E Division 1 Low Impact Bridge Replacements Design-Build | Eastern NC

Design Project Manager | Stewart provided structure design, roadway design, utility design, surveying, SUE and construction surveying for seven low impact bridge replacements in Division 1. This included the replacement of five Bridges in Bertie County, one Bridge in Chowan County and one Bridge in Martin County. The replacement structures utilize prestressed concrete cored slab and concrete box beams for the superstructure and pile bents for the substructure. Bridge lengths vary from 54 feet to 102 feet. The bridges were designed under the NCDOT Subregional Tier Design Guidelines.

Bridge on Wilkinson Station Road (SR 1626) over Beach Stump Canal, NCDOT TIP B-4024 | Beaufort County, NC

Project Engineer | David served as project engineer for a replacement bridge consisting of cored slab superstructure on pile bents. An asphalt overlay was placed on the cored slab surface. The project was designed to meet NCDOT standards. Also included in the scope of work was roadway approaches and utility coordination.

Bridge on Perry Road (SR 1514) over Big Swamp Tributary, NCDOT TIP B-3810 | Beaufort County, NC

Project Engineer | David served as project engineer for a replacement bridge utilizing prestressed cored slabs on concrete pile bents. The bridge was staged since there were no off-site detour routes available. Scope of work included roadway approaches, traffic control plans and utility coordination.

B-0413 Emergency Bridge Replacement | Buncombe County, NC

Project Manager | David served as Project Manager for this emergency bridge replacement, which was required when the existing bridge was washed away by Hurricane Charley. The replacement bridge utilized a three span cored slab structure with 25 ft, 60 ft, and 55 ft spans. The substructure utilized end bents and bents on HP 12 x 53 steel piles. The project design was fast tracked to minimize the time required to construct the replacement structure and open the roadway to traffic.

B-4934 Bridge No. 85 on US 258 over Deep Creek | Edgecombe County, NC

Project Manager | David served as Project Manager for this project, which included the design of a three span cored slab bridge with span lengths of 60', 60' and 50' and 510' of roadway approaches. End bents and bents are on H piles.

EDUCATION

Bachelor of Science in Civil Engineering
 University of Virginia

REGISTRATION

Professional Engineer (PE):
 North Carolina #11725
 South Carolina #19358
 Virginia #13300



ANDY YOUNG PE

ROADWAY DESIGN |
 TRAFFIC CONTROL



Andy has more than 19 years of roadway design experience both with Private Engineering Firms and The North Carolina Department of Transportation (NCDOT). His responsibilities included overseeing the design effort for Roadway, Traffic Management, Pavement Marking, and Signing disciplines. With this, he ensures projects schedules are maintained and/or advanced while producing plans that conform to the proper standards and are of the highest quality. He is well-versed in AASHTO, NCDOT Standards, NCDOT Policy and Procedures, MicroStation, Geopak, and Corridor Modeling.

EDUCATION

Bachelor of Science in Civil Engineering
 The Pennsylvania State University

REGISTRATION

Professional Engineer (PE):
 North Carolina #34407

RELEVANT EXPERIENCE

- **B-5610, Bridge No. 8 on NC 12 over the Slash | Dare County, NC**
Project Manager
- **B-5614, Bridge No. 9 on SR 1112 over Blounts Creek | Beaufort County, NC**
Project Manager
- **B-5613, Bridge No. 36 on NC 55 over the South Prong Bay River | Pamlico County, NC**
Project Manager
- **B-5616, Bridge No. 37 on NC 55 over Branch of Trent Creek | Pamlico County, NC**
Project Manager
- **B-4447 & B-5159, Final Plan Development for NCDOT | Varying Locations, NC**
Project Manager
- **B-4448, Bridge Replacement Project on I-40 at Exit 112 | Valdese, NC**
Project Manager
- **B-5400, Bridge Replacement on SR 3466 | Candler, NC**
Project Manager
- **NCDOT GESC On-Call | Division 14, NC**
Roadway Design Lead
- **NCDOT Feasibility Studies Unit Express Design On-Call | Various Locations, NC**
Project Manager



HARRISON WENCHELL

PLANNING | UTILITY
 COORDINATION



Harrison is a transportation planner with more than six years experience. Harrison has worked closely with municipal planning organizations and the NCDOT on various projects involving environmental planning, regional transit operations, and safety and mobility improvements. Harrison has led Stewart’s utility coordination services for numerous projects with the City of Raleigh, Town of Chapel Hill, Town of Mooresville, as well as various NCDOT Divisions and the Structures Management Unit. Harrison has established contacts across North Carolina with utility owners, municipalities, and NCDOT staff. From initial outreach to utility construction, Harrison’s meticulous approach and effective communication have successfully proven that he is capable of leading utility coordination for projects with varying complexity and scale.

EDUCATION

Bachelor of Arts in Environmental Design, Policy, and Planning
 SUNY Stony Brook University

RELEVANT EXPERIENCE

- **B-5610, Bridge No. 8 on NC 12 over the Slash | Dare County, NC**
Lead Transportation Planner
- **B-5613, Bridge No. 36 on NC 55 over the South Prong Bay River | Pamlico County, NC**
Lead Transportation Planner & Utility Coordinator
- **B-5613, Bridge No. 36 on NC 55 over the South Prong Bay River | Pamlico County, NC**
Lead Transportation Planner & Utility Coordinator
- **B-5616, Bridge No. 37 on NC 55 over Branch of Trent Creek | Pamlico County, NC**
Lead Transportation Planner & Utility Coordinator
- **B-5614, Bridge No. 9 on SR 1112 over Blounts Creek | Beaufort County, NC**
Lead Transportation Planner & Utility Coordinator
- **NCDOT Division 5 On-Call Bridge Replacements | Various Locations, NC**
Transportation Planner
- **B-5612, Bridge No. 24 on NC 222 over the Tar River | Pitt County, NC**
Transportation Planning Team Lead



C. RYAN DAVENPORT PLS

**MANAGER OF
 GEOSPATIAL**



Ryan serves as the Manager of Geospatial at Stewart. He is responsible for overseeing the Unmanned Aerial Systems (UAS), Geographic Information Systems (GIS) and High Definition Laser Scanning Services (HDS). Ryan has been with Stewart for over 17 years and has held previous roles in the Geomatics Group including Survey Project Manager and Manager of Survey. With over 26 years of progressive surveying experience, Ryan has acquired skills in data collection and data processing as well as project management and business development.

EDUCATION

Bachelor of Arts in Geography
 University of North Carolina at Wilmington

REGISTRATION

Professional Land Surveyor (PLS):
 North Carolina #4707
 Virginia #3088

RELEVANT EXPERIENCE

- **NCDOT 17BP.2.R47, Division 2 Express Design-Build | Beaufort & Pitt County, NC**
 Survey Project Manager
- **NCDOT Division 13 I-40 (I-5008, I-5874, and I-5875) Interchange Realignment | Burke County, NC**
 Survey Manager
- **NCDOT Division 10 Bridges | Davidson and Stanly Counties, NC**
 Survey Manager
- **NCDOT B-6003 Franklin 78 | Franklin County, NC**
 Survey Project Manager
- **NCDOT EB4996 Green Mill Run Greenway/Bikeway Phase 2 Extension | Greenville, NC**
 Survey Project Manager
- **NCDOT Division 13 I-40 (I-5008, I-5874, and I-5875) Interchange Realignment | Burke County, NC**
 Survey Manager
- **NCDOT 17BP.2.R47, Division 2 Express Design-Build | Beaufort & Pitt County, NC**
 Survey Project Manager



DON BROWN PE, LEED AP

**SR. GEOTECHNICAL
 ENGINEER**



Don is Practice Leader of the Geotechnical and Construction Services group, which is composed of three interrelated service offerings: Geotechnical Engineering, Construction Materials Testing (CMT), and Special Inspections (SI). Don is also the Senior Geotechnical Engineer at Stewart. He is heavily involved in all geotechnical work by personally managing many geotechnical engineering projects. He is also responsible for providing technical oversight for field operations and the testing of soil, concrete and other construction materials in Stewart's AASHTO and NCDOT-accredited laboratories.

CERTIFICATIONS

NCDOT Chemical Stabilization; NCDOT QMS / HMA Roadway (Asphalt) Technician; NCDOT ABC Sampling; NCDOT Conventional Density; Settlement of Structures and Embankments Workshop; Earthquake-Induced Ground Motions Short Course; Geopier Foundation 3-Day Workshop; Foundation Testing and Analysis Workshops, Pile Dynamic, Inc. Workshop; Nuclear Gauge, Radiation Safety Officer (RSO)

EDUCATION

Bachelor of Science in Civil Engineering
 University of North Carolina at Charlotte

REGISTRATION

Professional Engineer (PE):
 North Carolina #28422, South Carolina #22714

USGBC LEED Accredited Professional

RELEVANT EXPERIENCE

- **NCDOT B-5342 Bridge 169 over Gum Creek on SR 1148 | Alamance County, NC**
 Geotechnical Project Manager
- **NCDOT B-6003 Franklin 78 | Franklin County, NC**
 Geotechnical Project Manager
- **NCDOT B-5736 Bridge 38 over Beaver Creek | Guilford County, NC**
 Geotechnical Project Manager
- **NCDOT B-4816 Bridge 65 over Juniper Creek on US 15-501 | Scotland County, NC**
 Geotechnical Project Manager
- **NCDOT B-5313 Bridge No. 109 over Town Creek on SR 1002 | Wilson County, NC**
 Geotechnical Project Manager
- **NCDOT Geotechnical Engineering Limited Services Agreements | Various Locations, NC**
 Project Manager



G. LANE SAULS, JR.

**NATURAL RESOURCES
 MANAGER**



As Natural Resources Manager, Lane will handle all environmental permitting and natural systems. Lane’s 28 years of experience includes stream and wetland restoration/mitigation, natural resources, environmental permitting, protected species identification, habitat assessment, and ecology. Lane has completed numerous Natural Resources Technical Reports for NCDOT during his career.

EDUCATION

Bachelor of Science in Natural Resources
 North Carolina State University

CERTIFICATIONS

Stormwater Inspection and Maintenance Professional, NC
 Residential Rain Garden Certification, NC

AFFILIATIONS

North Carolina Wildlife Resources Commission Nongame
 Wildlife Advisory Committee – Chairman and Executive
 Committee Member
 Society of American Military Engineers, Fort Bragg Post –
 Executive Board Member

RELEVANT EXPERIENCE

- **NCDOT, Managed Bridge Replacements | Sampson, Duplin & Brunswick Counties, NC**
 Natural Resources Manager
- **NCDOT B-4943 Bridge #20 Over Dial Creek Replacement | Durham County, NC**
 Natural Resources Manager
- **NCDOT, 17BP Bridge Replacements | Sampson County, NC**
 Natural Resources Manager
- **NCDOT R-2615 | Watauga County, NC**
 Natural Resources Manager



FRANK FLEMING PE

**WATER RESOURCES
 MANAGER**



As Water Resources Manager, Frank will manage all Hydraulic Design and Erosion Control. Frank has extensive experience in hydrologic and hydraulic design, roadway design, greenway, stormwater management, erosion control, and permitting. Frank has performed numerous bridge replacement projects, rural and urban roadway, and interstate drainage design for multiple municipalities and the North Carolina Department of Transportation (NCDOT).

EDUCATION

Bachelor of Science in Civil Engineering
 North Carolina State University

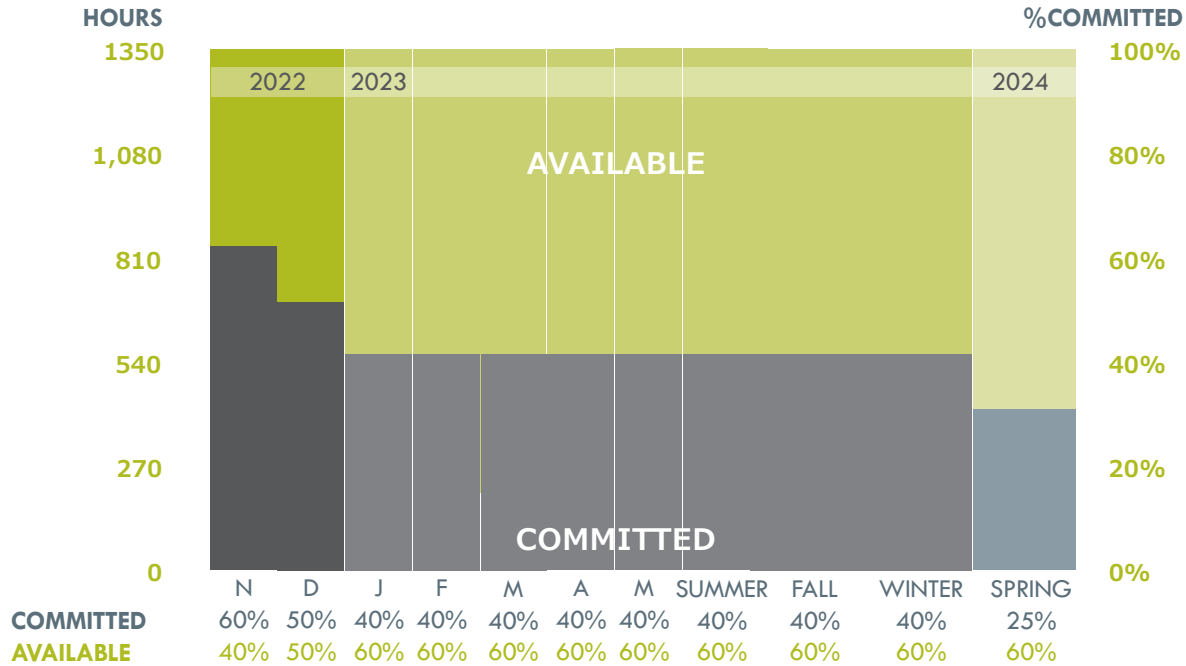
REGISTRATION

Professional Engineer (PE):
 North Carolina #020147

RELEVANT EXPERIENCE

- **NCDOT, Managed Bridge Replacements | Sampson, Duplin & Brunswick Counties, NC**
 Water Resources Manager
- **NCDOT, 17BP Bridge Replacements | Sampson, Duplin & Brunswick County, NC**
 Water Resources Manager
- **NCDOT, R-2250C, Southwest Bypass | Pitt County, NC**
 Water Resources Manager

CAPACITY CHART



CURRENT PROJECTS IN PROGRESS

DOUG TAYLOR, PE CPM

Southern Shores Comprehensive Plan

- B-5501 Bridge 3 Chowan
- B-5502 Bridge 13 Northampton
- B-5608 Bridge 10 Hertford
- B-5616 Bridge 37 Pamlico
- BR-0047
- Kill Devil Hills ADA Transition Plan
- Anson County Bridge Project BR-0063

DAVID RUGGLES, PE LEED AP

- Division 5 Warren 135 R.88
- Division 5 Wake 405 Phase 1 R.85
- Division 5 Wake 186 R.86
- B-5323 Granville 143
- B-4828 Vance 56
- B-6003 Franklin 78
- 17BP.5.R.78 Warren 140
- Blue Heron Trail at Bermuda Run, NC
- Oberlin Road Bridge 507 over Wade Avenue
- Durham LaSalle Bridge Sidewalk Upgrade
- Paddy’s Creek Pedestrian Bridge

STEWART’S STAFFING ABILITY

Our team typically has a workload ranging between 75-85% capacity. The amount of effort dedicated to any given project varies between staff members based on their position within each firm and their designated role for the project. For the Southern Shores Juniper/Trinitie Trail Bridge Replacement, we have selected a team that has the expertise and availability necessary to ensure a high level of customer service and quality work is achieved and that anticipated project schedules can be met.

Each of our proposed team members has an assigned workload of projects in various stages of design and development, which is updated on a weekly basis to ensure consistency and continuity. As necessary, our team has additional resources available that can be employed to ensure maximum utilization on all projects.

TECHNICAL APPROACH

STEWART STRONGER BY DESIGN

UNDERSTANDING OF PROJECT BRIDGE DESIGN APPROACH

The existing structure at the site is a corrugated metal culvert with steel bulkheads on either side of the culvert. The roadway approaches to the culvert have experienced issues with settlement. The metal culvert is slightly collapsed. The replacement structure is proposed to be a prestressed cored slab bridge. The November 25, 2016 report prepared by Kitty Hawk Engineering provides detailed information on the site issues and recommendations.

In the planning stages, Bridge Engineers will coordinate very closely with Planners, Hydro Engineers, Roadway Engineers, and other disciplines to determine constraints and requirements for the site. The environmental investigation will identify environmental restrictions that must be followed during design. Existing utilities should be identified and studied to determine if utility locations will have any impact on design decisions. Stewart will coordinate closely with the Hydraulic Engineer, Frank Fleming, on bridge length and height above water surface. The planning process will consider all project parameters, including public impacts, environmental impacts, project costs, utility impacts, and stakeholder concerns.

The Hydro Engineer will prepare a report with recommendations. Once the planning and Hydro reports are approved, preliminary bridge plans will be prepared. The plans would be prepared in accordance with NCDOT standards and guidelines plus any applicable Southern Shores standards. Preliminary plans would then be submitted for review. The replacement bridge is anticipated to be a cored slab bridge, most likely a one-span structure.



The Stewart team is being utilized by NCDOT Units and Divisions for General Engineering Services. For Division 14, we have reviewed numerous turnkey design bridge replacement projects and provided plan review assistance. For the Structures Management Unit, we provided working drawing reviews on various projects. For Division 5, we are assisting Division 5 Staff

with project management and schedule maintenance. All of this experience strengthens our ability to design and complete bridge replacement projects on North Carolina Roadways.

After the Preliminary Bridge Plans are approved, Don Brown will perform a geotechnical exploration to evaluate the subsurface conditions. The geotechnical exploration will consist of two borings with standard penetration test (SPT) – one boring per abutment. In the unlikely event that an interior bent is required (for multi-span bridge), a boring would also be drilled at the interior bent location. The borings will have target drill depths of 60 feet each.

The information collected in the field will be examined and organized by our geotechnical staff to prepare foundation recommendations for the bridge. Foundation recommendations will be prepared and incorporated into a geotechnical report describing the work completed and our findings. As part of our evaluation, we will also consider the past settlement history at this site and work with our bridge designers closely to provide solutions that reduce the potential for such settlement in the future.

After preliminary bridge plan approval, final bridge plans would be developed in accordance with all applicable NCDOT and AASHTO standards and Southern Shores standards, including the NCDOT Structure Design Manual, LRFD Bridge Specifications, sub-regional tier guidelines (if applicable), and NCDOT Standard Drawings. Stewart will follow a formal QA/QC process to ensure that high quality plans are produced.

If Southern Shores would like an investigation of alternative structures to reduce costs, Stewart has the capability to study alternatives and provide recommendations. Stewart completed a project utilizing a prestressed concrete (CONSPAN) arch bridge over a stream with footings founded on steel H piles. The H pile foundation would prevent settlement of the structure. Pile type selected would consider the corrosive nature of the site and prestressed concrete piles or galvanized steel piles would be considered for the foundation.

CORED SLAB BRIDGE EXPERIENCE

Stewart has significant cored slab bridge experience, including design of several bridges on the Outer Banks. Stewart is currently working on the design of a cored slab bridge in the town of Hatteras for the NCDOT. NCDOT criteria considers Outer Banks bridges to be in a zone designated as a “highly corrosive area”, and there are a number of measures that are incorporated to provide enhanced bridge protection to resist corrosion. These measures include providing epoxy coated reinforcing steel and incidental steel, special admixtures for concrete, and other measures. This bridge would be designed in accordance with the guidelines provided in the NCDOT Structure Design Manual for bridges located in highly corrosive areas.

ROADWAY DESIGN APPROACH

To reduce the amount of bridge approach work and to maximize the funds available for the bridge replacement project, our team will use the Sub Regional Tier Design Guidelines for Bridge Projects when applicable to establish minimum design values. These design values will allow the team to minimize changes in the geometry of the bridge and roadway while maintaining or improving the existing operating conditions. After reviewing the site, applying context sensitive design principles to the bridge replacement design will maintain the integrity of this area.



Stewart's Andy Young who will be the Roadway Design and Traffic Control Lead, discussing proposed improvements with interested residents.

If desired as part of the scope of work, alternates will be considered with one being replace in place with an off-site detour and another being an alternate that maintains traffic on-site. Stewart will evaluate the alternatives and coordinate with the Town to determine the most feasible alternate.

CATEGORICAL EXCLUSIONS

Depending upon the funding type, a NEPA document may be required for the project. Stewart has extensive experience in developing these documents and is prequalified with NCDOT. A Categorical Exclusion is the most likely type of document for this bridge replacement.

ACTIVE COMMUNITY OUTREACH

We have learned over many years of reaching out to communities that the old, passive model of announcing a public meeting and asking interested citizens to make time after a busy day to come to a meeting is not an effective way to communicate about a project. This passive type of outreach consistently produces low participation and reaches only those who self-select as interested in the project. Stewart's public involvement specialists look for opportunities to go out into the community to inform about a project, solicit input, advertise formal meetings, deploy surveys and provide updates. This active model of community involvement reaches more citizens and members of the community who may not otherwise know about the project. Looking at this area, we believe some level of public involvement will inform the public and help them buy-in to the project design.

UTILITY COORDINATION

Stewart recognizes the importance of utility coordination associated with bridge replacement projects. Initiating utility coordination early in the project is very important. Utilities must be considered in the planning process to ensure that any potential utility impacts are considered when evaluating alternatives. Stewart will contact each utility provider to confirm the status and future plans for respective utilities. Plans will be developed based on each utility provider's strategy for relocation as required. Should precise locations

of below grade utilities be required, Stewart has experienced SUE staff in-house prepared to provide below grade utility locations. Stewart has extensive experience with coordinating PUE (Permanent Utility Easements) and URA (Utility Relocation Agreements) as well as designing public utility relocations on projects when necessary.

For this project, there appears to be possible underground telecommunications line(s) and a six-inch water line running along Juniper / Trinitie Road. The proposed plan must accommodate existing utilities, either via relocation or by attaching to the bridge structure. Attaching to the bridge structure should be avoided if possible since exposed utilities require maintenance. A better solution might be an underground bore beneath the canal to resolve potential utility conflicts. Clearing utility conflicts prior to construction is critical to a short construction timeline without delays.

SURVEYING

Stewart will coordinate a survey of the project area. Stewart has extensive experience involving roadway and utility corridors as relates to property, deed, easement and right-of-way research. Should it be determined that limited verifications of below-grade utilities will be required, Stewart has experienced SUE staff in-house prepared to provide below-grade utility locations.

GEOTECHNICAL INVESTIGATION & DESIGN

Once the bridge bent locations are determined, Stewart will perform a geotechnical exploration to evaluate the subsurface conditions. The geotechnical exploration will consist of two borings with standard penetration test (SPT) – one boring per end bent. The borings will have target drill depths of 60 feet each.

The information collected in the field will be examined and organized by our geotechnical staff to prepare foundation recommendations for the pedestrian bridge. Foundation recommendations will be prepared using the standard NCDOT report format and incorporated into a geotechnical report describing the work completed and our findings.



Doug Taylor and Andy Young sharing information to ensure good communication at a project site



Because Stewart can offer so many of the most commonly needed services in-house we are also able to offer measurable efficiencies in delivering projects. Our geotechnical and survey practice areas both currently have NCDOT or municipal on-calls for their respective disciplines and we have crews with roadway and bridge project experience throughout the state, ready to mobilize.

INNOVATIVE APPROACHES TO BE USED

Streamlining the Process – Because of our experience with Central Unit and Division managed projects, we are able to develop aggressive schedules that combine tasks and develop design disciplines concurrently where possible to minimize the timeframe and deliver the design ahead of schedule. This fits in nicely with the Integrated Project Delivery process NCDOT has transitioned to.

Innovative Procedures – When Division 5 requested some Field Scoping Meetings be held in the office instead of on-site, Stewart developed a PowerPoint presentation incorporating the Field Scoping Worksheet data, mapping and site photos to replicate an on-site experience in the office setting. This procedure was highly successful and will continue to be used by Division 5 as needed to expedite projects.

Value Management – Our approach to the project will be based on the methodology of value management. We have designed a scoping checklist that our engineers fill out at site visits, which captures key information about each project and responds to the stakeholder expectations for a given assignment. Additionally, we maintain a “running lessons learned” list to expedite future projects.

Public Involvement Aids – When Division 13 asked us for ways to sell the roundabout designs on our I-40 interchange projects to the public, we worked with our Geomatics team to provide drone footage and develop a roundabout education video that could be played during the public meeting. Division 13’s Jammie Robbins, NCDOT Public Involvement,

Community Studies & Visualization Group Leader, commented as follows: “Citizens expectations are changing about how they interact with public agencies. People are increasingly relying on digital video for news, information, and public discussion. Videos, such as this roundabout informational video, are effective in engaging and educating. Watching a short video is easier than reading through a plan or report. The greater utility of these types of videos is that they can be available 24 hours a day, 7 days a week, far beyond the time frame of a traditional public meeting.”

.....
“The Division was very impressed with the roundabout video that Stewart provided in a short amount of time. The video was essential in helping educate the public’s understanding of how roundabouts function.”

The video may be viewed here: <https://bit.ly/2SwhqVh>

Use of Latest Technology, Practices, & Procedures –

The Stewart Team has always embraced the opportunity to be at the forefront of new technology. When Open Roads became the next technology transition, we purchased the software bundle so we could begin practicing in preparation of the implementation. When alerted to the move to MS Project scheduling, we purchased the software and began using it before it became a requirement. We will always be proactive with implementing new technology, practices and procedures.

SCHEDULE ADHERENCE

Stewart understands that one of the critical aspects of a project, from funding to stakeholder expectation, is adherence to the project schedule. From setting an aggressive schedule at inception to working critical paths concurrently, we are committed to providing high quality designs ahead of schedule. We will work with the Town to determine the best schedule to meet the Town’s needs. This will involve developing a detailed project schedule that includes monthly project meetings to keep Southern Shores informed of the progress.

LOCATION LOGISTICS

The Stewart team is currently working in Southern Shores on the Comprehensive Plan and has demonstrated a dedication to being available and actively involved in the Town’s process. Our Design Team is accustomed to working all across the state. We have developed procedures incorporating our offices across the state, specifically our Wilmington office, to ensure we maximize customer service to our clients and are available when needed. We recognize how virtual meetings have become part of how we work, but we understand the importance of being in-person and commit to continuing to be present to serve Southern Shores.

STATEMENT OF OWNERSHIP

Stewart understands that the Town of Southern Shores is the proprietor of all work product developed for or on behalf of the Town by the selected firm or person, regardless of location, type, and format of the work product – and acknowledges that all work product will be retained and submitted to the Town, or a specified agent or contract consultant of the Town at the Town’s direction, upon request, regardless of whether the work product is considered a “trade secret”.

REFERENCES **07**

01

Lisa Schiffbauer
 City of Raleigh Parks and Recreation
 Project Manager
 919.996.4785
 lisa.schiffbauer@raleighnc.gov

Stewart’s transportation planners and engineers worked with Lisa and the City of Raleigh Parks and Rec department on the Crabtree Creek West Greenway. The scope of work on this project resembles the scope listed in this rfq; including hydraulic design, erosion control and permitting, geotechnical investigations and foundation recommendations, FEMA bridge compliance, bridge layout and end bent design, and Utility conflict plans.

02

Lisa B. Gilchrist EI
 North Carolina Department of
 Transportation
 Bridge Program Manager - Division 5
 919-317-4700
 labullard-gilchrist@ncdot.gov

Doug Taylor and David Ruggles, in unison with their teams listed in the org chart on page 7, have extensive experience working on bridge replacement projects through their on-call with NCDOT Division 5. Stewart has become a reputable contractor for these types of projects statewide, consistently meeting and exceeding project schedules.

03

Jonathan Young PE
 Town of Mooresville
 Engineering Services Director
 704.799.4065
 jyoung@mooresvillenc.gov

Jonathan worked closely with the our Transportation team on the West Wilson and McLelland Street improvements in Mooresville. Stewart was responsible for delivering turnkey design services from inception to completion on the two gateway entrances. Design challenges included keeping construction limits within the existing right of way. We improved the roadway geometry in short sections which had to be closely coordinated with all the existing utilities in the area.



At Stewart, we believe in servant leadership, continuous improvement, and our core values of Trust, Humility, Respect, Excellence, Accountability, and Discipline, or THREAD. We seek out opportunities to put those values into action in our communities and through our work. Above: team members remove invasive species from Durant Nature Preserve, talk with girl scouts about drones and aerial surveying, and volunteer at the Raleigh Food Bank.

