



TIP BL-0007

# Ecusta Rail-Trail

*Henderson County Government*

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OCTOBER 15, 2021

PREPARED BY ALTA PLANNING + DESIGN, INC.

IN ASSOCIATION WITH  
ALTA ENGINEERING SE, PLLC | WGLA ENGINEERING, PLLC | MATTERN &  
CRAIG | SUMMIT DESIGN AND ENGINEERING SERVICES, PLLC | THREE  
OAKS ENGINEERING | MDM HISTORICAL CONSULTANTS

**alta**



# Chapter 1 | Introduction



## Marcus A. Jones, PE

County Engineer  
1 Historic Courthouse Square  
Hendersonville, NC 28792  
majones@hendersoncountync.gov

## Alta Contact

**Mike Repsch, PE**  
Project Manager  
111 East Chapel Hill Street, Suite 100  
Durham, NC 27701  
(860) 819-6034  
mikerepsch@altago.com

### RE: Request for Letters of Interest for TIP BL-0007, Ecusta Rail-Trail

Dear Marcus and Members of the Selection Committee,

The Ecusta Rail-Trail will become THE premier trail of North Carolina, drawing national interest and attention similar to the Virginia Creeper Trail and Swamp Rabbit Trail, two regionally comparable rail trail projects. Since 2011, Alta Planning + Design, Inc. (Alta) has been part of the Ecusta Trail vision and effort, beginning with our work on the master plan and more recently providing technical assistance to Henderson County towards the acquisition of the corridor. Our entire team has highly relevant experience managing federally-funded trails, and most importantly, experience working with NCDOT's LAPP process on trail design, letting, and construction projects. Additionally, this is not just another project for our team. Having a vested history and continued interest in the success of the Ecusta Trail, we consider this a legacy project, not just one that pays the bills. Alta's familiarity and commitment to the success of the Ecusta Rail-Trail is unmatched. We believe the Alta team is the right team for this project and it boils down to two key points.

First, our seasoned team of engineers will see that both the design plans and the LAPP process are compliant with federal and state standards. Alta has many years of experience delivering NCDOT and LAPP funded projects. We understand the departmental requirements for projects that have NCDOT oversight, or interact with NCDOT facilities. We are familiar with the required NCDOT coordination and approval processes, and will act as a partner to guide the County through the process. **In addition, our team members already have a thorough understanding of the corridor through preliminary alignment study, high-level environmental analysis, on-site assessment (walking of full corridor length), and identification of key issues.** Our team features Will Buie of WGLA, who will assist with local coordination, on-the-ground support, and project peer review. Will's involvement will provide the County with a local, trusted engineer that brings value and an extension of our engineering staff.

Second, our team is passionate about trails and the Ecusta Rail-Trail in particular. Our team members are trail professionals and trail users and understand the trail experience. Alta and Three Oaks staff have a history of bike commuting and recreational riding on the American Tobacco Trail, a rail-trail in Durham, Wake, and Chatham counties, and that is how I first met Suzanne. We have a nuanced understanding of design principles for rail-trails that will make the Ecusta Rail-Trail function both as a transportation mode and recreational destination, consistent with the original vision for the project. We will bring our specialized understanding of trail projects to Henderson County and the City of Hendersonville as we consider future amenities, landscaping, connectivity, and enhancements that will make the Ecusta Rail-Trail an even better experience.

Alta and our subconsultants (as required) are on register with NC Office of the Secretary of State and the NC Board of Examiners for Engineers and Surveyors. Our most recent date of prequalification is January 28, 2021. To the best of our knowledge, neither Alta nor proposed subconsultants have any conflict of interest with NCDOT, Henderson County, or the project.

We sincerely thank you for considering our team. Please let us know if you have any questions concerning our qualifications. We hope to get to work with you on this legacy project.

Our letter of interest is structured as follows:

- Chapter 1 – Introduction
- Chapter 2 – Team Qualifications
- Chapter 3 – Team Experience
- Chapter 4 – Technical Approach
- Appendix – Forms

Sincerely,

## Matt Hayes, AICP

Vice President, Principal-in-Charge  
Alta Planning + Design, Inc.

# Chapter 2 | Team Qualifications

## Caldwell Station Tributary Greenway

CORNELIUS, NC | 2020-ONGOING



**Alta** is leading the design of the Caldwell Station Tributary Greenway in Cornelius. The greenway will connect the existing Caldwell Station Creek Greenway with the newly constructed recreation center. The project consists of preparing preliminary design, survey, drainage design, structural design, trail construction drawings and specifications, and permitting for approximately 1 mile of asphalt and concrete trails.

The proposed greenway trail is 1.04 miles in length and will connect the existing Caldwell Station Creek Greenway to the Northern Regional Recreation Center. The greenway runs parallel to Caldwell Station Creek and includes two neighborhood connections (one at Caldwell Depot Road and one at Caldwell Track Drive), and one connector to a commercial park at the west side of the creek. The proposed project will include a paved 10' wide greenway with 2'-5' wide shoulders, trailheads, plantings, stormwater controls, and stream crossings. The trail also includes landscaping and amenities.

### CLIENT

Mecklenburg County

### CONTACT

Jennifer Brooks, PLA, ASLA  
Landscape Architect  
Mecklenburg County  
(980) 445-8724  
jennifer.brooks@mecklenburgcountync.gov

## Cross Charlotte Trail, Hidden Valley Segment

CHARLOTTE, NC | 2017-2018



**Alta** is currently leading the design of the Hidden Valley section of the Cross Charlotte Trail project. The project includes a combined 1.8 miles of the Cross Charlotte Trail between Tryon Street to Orr Road and a spur trail. The project begins near the intersection of Tryon Street at Mellow Drive and ends at the intersection of Tryon Road at Orr Road. A spur trail extends into the Martin Luther King Jr. Middle School and connects the school, Lambeth Drive, and Austin Drive to the Cross Charlotte Trail. Work includes construction of sidewalks, curb ramps, multi-use path, bike boulevards, curb and gutter, pavement markings and signage, grading, erosion control, traffic control, paving, storm drainage and traffic signal modifications.

### CLIENT

City of Charlotte

### CONTACT

Sharon Buchanan, PE  
Project Manager  
City of Charlotte  
(704) 336-2044  
Sharon.Buchanan@charlottenc.gov

## Cross Charlotte Trail, 7th to 10th Street Segment

CHARLOTTE, NC | 2017-2020



**Alta** worked with the City of Charlotte to plan and design two sections of the Cross Charlotte Trail. This included the design and permitting of approximately 3,700 linear feet of the Cross Charlotte Trail between 7th Street and 10th Street.

In addition to an underpass at the 7th street bridge, the trail slopes up to a pedestrian plaza and overlook at the northwest quadrant of the 7th Street and Central Avenue Intersection. The trail transitions at this intersection to separated bike lanes on Central Avenue, crossing over US-74. The separated bike lanes terminate at or near Prospect Street where the trail transitions back to a greenway/multi-use path, paralleling the I-277 northbound on-ramp northward toward 10th Street where the design associated with this scope will be coordinated with the 10th Street crossing. Work includes construction of sidewalks, curb ramps, multi-use path, curb and gutter, pavement markings and signage, grading, erosion control, traffic control, paving, storm drainage and traffic signal modifications.

### CLIENT

City of Charlotte

### CONTACT

Joe Frey  
Senior Project Manager  
City of Charlotte  
(980) 214-6972  
joe.frey@charlottenc.gov

## Wolf River Greenway

MEMPHIS, TN | 2014-ONGOING



**Alta** is working with the Wolf River Conservancy to plan, design, and implement a 22-mile trail along the Wolf River Corridor in Memphis. Alta to date is leading the engineering of five phases of the project, providing planning, public engagement, surveying, permitting, property acquisition, operation and maintenance planning, wayfinding design, a project web page, engineering, and construction administration services. The entire project is funded through a combination of local, state, federal, and private sources and is set to be fully constructed in 2025.

Alta's phases of the project to date consist of 5.8 miles of 12-foot-wide asphalt trail, 1.6 miles of separated bike lanes, a 250-foot asphalt entrance road off of N. Highland Street with parking lot, 900 feet of concrete boardwalks, 14 prefabricated pedestrian bridges, a railroad bridge underpass canopy, 7 drainage culverts, sidewalk improvements, greenway amenities, a wayfinding signage system, 1 RRFB, 3 HAWK signals, and 2 traffic signal modifications.

### CLIENT

Wolf River Conservancy

### CONTACT

Findley Frazer  
Greenway Project Coordinator  
Wolf River Conservancy  
(901) 417-1058  
findley.frazer@wolfriver.org

## Atlanta Beltline

ATLANTA, GA | 2020-ONGOING



**Alta** is leading a team of consultants for the Atlanta BeltLine Westside Trail Extension project. The Westside Trail Extension will close a very important 1.3-mile gap in the circuitous rail-to-trail system. Atlanta BeltLine is one of the largest, most wide-ranging urban redevelopment programs in the United States. Atlanta BeltLine, Inc. and project partners are committed to the project catalyzing job creation, inclusive transportation, climate positive action and affordable housing. The client is seeking SITES® Gold for the segment that Alta is designing, which will make it the first SITES-certified trail in the country.

The Westside Trail Extension design includes native landscape planting, fiber duct bank, trail furnishings, placemaking, lighting, retaining walls, vertical structures connecting to adjoining streets, green infrastructure, and climate-positive design materials. Alta and project partners are providing environmental services, landscape architecture, engineering, and construction services including administration, management, and bid procurement.

### CLIENT

Atlanta BeltLine, Inc.

### CONTACT

Kevin Burke, PLA, FASLA  
Director of Design  
Atlanta BeltLine, Inc.  
(404) 477-3637  
kburke@atlbeltline.org

## Ecusta Rail Trail Master Plan and Technical Assistance

HENDERSON AND TRANSYLVANIA COUNTIES, NC | 2011 AND 2019



Alta developed the original Ecusta Rail Trail Master Plan in 2011 that included an economic impact analysis. More recently, the **Alta** and **Three Oaks** team prepared 15% design plans based on GIS and LIDAR data, a cost estimate, and a CE for the project, which was a condition of the grant approval. Due to the required two-month turnaround, the design team strategized with the FHWA to determine the appropriate level of documentation for the initial, land acquisition phase of the project. Work included outreach to the state historic preservation office, multiple tribal historic preservation offices, and federal and state resource agencies.

### CLIENT

Conserving Carolina

### CONTACT

Rebekah Robinson  
Assistant Director for  
Programs  
(828) 697-5777  
rebekah@  
conservingcarolina.org

## Utley Creek Greenway – Phase 2

HOLLY SPRINGS, NC | 2020-ONGOING

**Alta** is leading the design with support from **Summit** and **Three Oaks** for the second phase of the Utley Creek Greenway in Holly Springs. The greenway will connect the Holly Glen neighborhood to the first phase of the greenway. The project consists of preparing the greenway design plans, survey, geotechnical borings, drainage design, structural design for six boardwalk stream crossings, and permitting for approximately one mile of a 10-foot-wide asphalt trail.



### CLIENT

Town of Holly Springs

### CONTACT

Matt Beard, AICP  
Park Planner  
(919) 567-4018  
matt.beard@hollyspringsnc.us

## Middle Creek Greenway – Phase 1

APEX, NC | 2017-ONGOING

**Alta** is leading the design with support from **Summit** and **Three Oaks** of the Middle Creek Greenway – Phase 1 in Apex. The first phase of the Middle Creek Greenway included the design and permitting for a greenway along Middle Creek from Sunset Lake Road to Dilly Daily Court. The greenway will complete a current gap in the Town greenway system by connecting a segment of greenway behind the Reunion Pointe subdivision to the Holly Springs Greenway system. In addition to the greenway, this project included pedestrian crossing improvements on Sunset Lake Road, survey, geotechnical borings, trailhead design, drainage design, NCDOT coordination with the NC-540 extension, NCDOT encroachment permits, utility coordination, flood modeling, and permitting.



### CLIENT

Town of Apex

### CONTACT

Angela Reincke  
Parks and Greenway  
Planner  
Town of Apex  
(919) 372-7468  
angela.reincke@apexnc.org

## Town of Mills River Recreational Improvements

MILLS RIVER, NC | 2009-ONGOING

**WGLA** worked with the Town of Mills River beginning in 2009 in the development of a master plan for their Town Hall Complex which includes Mills River Park. One of the key components of the Park is a 1.2 mile multi-use path that connects the Town Hall, playground areas, recreations fields and river access. The initial phase of the Park and multi-use path was funded through a PARTF grant. WGLA assisted with the initial application, planning, design, permitting and construction administration of the project.

WGLA continues to assist the Town with expansions of the Park and multi-use path. Typically the Town completes yearly projects and enhancements to the Park with WGLA providing design, permitting, bidding assistance and construction administration for the projects.



### CLIENT

Town of Mills River

### CONTACT

Daniel Cobb  
Town Manager  
Town of Mills River  
(828) 890-2901  
daniel.cobb@millsriver.org

# Pedestrian/Equestrian Bridge Design

DUPONT STATE FOREST, NC | 2013



**Mattern & Craig** led the initial project, including a pre-design opinion of the most economical bridge for pedestrian/equestrian use to span the Little River in the DuPont State Forest. The bridge would connect trails in the forest that lead to Hooker and Triple Falls. The pre-design opinion was used to secure bridge funding anticipated to have a span of 135'. Additional design considerations included working adjacent to a trout stream; spanning the stream at an elevation sufficient to pass a 1% chance flood and connecting the bridge to the existing trails with transitions sufficient to accommodate equestrian and some handicap access.

Final design consisted of plans, specifications, estimate and permitting assistance to NCDOT for the bridge. The project was on an extremely fast timeline with bridge completion desired in 5 months. The team's services included survey, hydraulic design including BSR and CLOMR trail design, bridge abutment design, bridge specifications for a 150' span bow truss bridge, erosion control, traffic control, and permitting.

## CLIENT

NCDOT

## CONTACT

Mr. Josh Deyton, P.E.  
Project Team Lead  
NCDOT  
(828) 488-0902  
jbdeyton@ncdot.gov

# Leicester Highway Sidewalk Project (U-5190)

ASHEVILLE, NC | 2017-2019



**Three Oaks** assisted **Mattern & Craig** with environmental compliance and public involvement services for the addition of sidewalk along Leicester Highway (NC 63) from US 23/74 (Patton Avenue) to the western city limits of Asheville near SR 1316 (Spivey Place), a distance of approximately 2.3 miles. Initial tasks included preparation of a natural resources technical memorandum evaluating streams, wetlands, and protected species, and coordination with the state historic preservation office under Section 106 of the National Historic Preservation Act. Three Oaks completed a federal Type IA Categorical Exclusion (CE) for the project, which was required because the City of Asheville received federal funds for the project administered through NCDOT. The CE was reviewed and approved by the City and NCDOT Division 13 in February 2018. Three Oaks later worked with City staff to plan a public workshop that was held in August 2019. The workshop provided property owners and residents along the corridor with the opportunity to view the project final designs prior to right-of-way acquisition.

## CLIENT

City of Asheville

## CONTACT

Vinnie Sullivan, PE, CFM  
Project Manager  
City of Asheville  
(828) 230-6312  
vsullivan@ashevillenc.gov

# Historic Structures Survey Report: Upgrade NC 81 (Swannanoa River Road) from Alternative US 74 to US 70

BUNCOMBE COUNTY, NC | 2019



**Mdm** evaluated six historic properties during the planning process for the upgrade of the busy thoroughfare along the north bank of the Swannanoa River in east Asheville. The resources included the Asheville Municipal Golf Course, two residential neighborhoods, Asheville Recreation Park, and a bridge and powerhouse over the Swannanoa River. Industrial, commercial, and residential development characterized the project area.

## CLIENT

NCDOT

## CONTACT

Mary Pope Furr  
Historic Architecture Team  
Lead  
Environmental Analysis  
Unit, NCDOT  
(919) 707-6068  
mpfurr@ncdot.gov

# Chapter 3 | Team Experience

## Organizational and Capacity Chart



### CAPACITY

<b>Matt Hayes, AICP</b> PRINCIPAL-IN-CHARGE, DURHAM, NC	40%
<b>Mike Repsch, PE</b> PROJECT MANAGER, DURHAM, NC	50%
<b>Britt Storck, ASLA, PLA, CPD</b> SENIOR ADVISOR, ATLANTA, GA	40%
<b>Tom Natwick, PE</b> SENIOR ENGINEER, DURHAM, NC	50%
<b>Juan Morales, PE</b> SENIOR ENGINEER, CHARLOTTE, NC	50%
<b>Branden Bergeron, PE</b> SENIOR ENGINEER, DURHAM, NC	40%
<b>Chris Allen, PE</b> SENIOR ENGINEER, BALTIMORE, MD	40%
<b>Diane Jlelaty, PE</b> ENGINEER, ATLANTA, GA	40%
<b>Chloe Weigle</b> DESIGNER, ATLANTA, GA	45%
<b>Emily Condon</b> DESIGNER, CHARLOTTE, NC	45%
<b>Steve Bzomowski, AICP</b> SENIOR PLANNER, DURHAM, NC	40%

### CAPACITY

<b>James Voso, PE</b> TRANSPORTATION ENGINEER, ASHEVILLE, NC	40%
<b>Chad Thomas, PE</b> STRUCTURAL ENGINEER, ROANOKE, VA	50%
<b>Brian Newman, PE</b> SENIOR DRAINAGE/HYDRO ENGINEER, HICKORY, NC	30%
<b>William Buie, PE</b> ENGINEER, HENDERSONVILLE, NC	30%
<b>G. Thomas Jones, PE</b> ENGINEER, HENDERSONVILLE, NC	30%
<b>Barbara Wagner, AIA, LEED AP</b> PROJECT ARCHITECT, ASHEVILLE, NC	75%
<b>Brad Worley, PG</b> PROJECT GEOLOGIST, RALEIGH, NC	55%
<b>Harold Pruitt, PE</b> SENIOR GEOTECHNICAL ENGINEER, HILLSBOROUGH, NC	65%
<b>Suzanne Unger Young, PE</b> ENVIRONMENTAL ENGINEER, DURHAM, NC	50%
<b>James Mason, PWS</b> ENVIRONMENTAL SCIENTIST, DURHAM, NC	50%
<b>Jennifer Martin</b> HISTORICAL STRUCTURE LEAD, DURHAM, NC	20%



## Key Team Members



### Matt Hayes, AICP

#### Principal-in-Charge

Matt is a Vice President and brings over 20 years of experience leading multimodal transportation and greenway planning efforts across North Carolina and the Southeast. His expertise and passion lie in his ability to take clients from a vision to an implementable plan or project. He has managed over 100 bicycle, pedestrian, and greenway planning and feasibility projects at the state, regional, community, and corridor levels.

#### Relevant Experience

- Ecusta Rail Trail Master Plan and Economic Impact Analysis, Hendersonville, NC
- Isothermal Rail Trail Master Plan, Marion and Rutherfordton, NC
- Wolf River Greenway, Memphis, TN
- Utley Creek Greenway – Phase 2, Holly Springs, NC

#### YEARS AT ALTA

11 years

#### YEARS OF EXPERIENCE

21 years

#### REGISTRATION

American Institute of Certified Planners (AICP) #021773



### Mike Repsch, PE

#### Project Manager

Mike is a Professional Engineer with a vast, diverse background working on challenging greenway and active transportation projects throughout the United States. Mike's highlighted projects include: greenway and bikeway design, green infrastructure design, multimodal corridor studies, transportation system improvements, and transit and access plan for pedestrians and bicyclists.

#### Relevant Experience

- Ecusta Rail Trail, Henderson/Transylvania Counties, NC
- Caldwell Station Tributary Greenway, Cornelius, NC
- Cross Charlotte Trail (XCLT) Hidden Valley Segment, Charlotte, NC
- Cross Charlotte Trail, 7th to 10th Street Segment, Charlotte, NC
- Research Triangle Park Pedestrian Trails: Phase 18B, Raleigh, NC
- Utley Creek Greenway – Phase 2, Holly Springs, NC
- Middle Creek Greenway – Phase 1, Apex, NC
- Mingo Creek Greenway, Knightdale, NC
- Catawba River Greenway, Mount Holly, NC
- Campbell Creek Greenway Extension Construction Documents, Mecklenburg County, NC
- Wolf River Greenway, Memphis, TN
- Arkansas Delta Heritage Trail, SE AR
- Atlanta Beltline Westside Trail Extension, GA
- Alpha Loop Trail, Alpharetta, GA
- Peachtree Corners Trail, Phases A1 and A2, Peachtree Corners, GA
- Shot Pouch Greenway, Sumter, SC
- Camden Greenway, Camden, SC

#### YEARS AT ALTA

8 years

#### YEARS OF EXPERIENCE

21 years

#### REGISTRATION

Professional Engineer:  
NC (#33609); AL (#39324-E);  
AR (#19538); CT (#25098); DC  
(PE#920415); DE (#20331);  
FL (#79870); GA (#039011); IL  
(#062066470); MD (#47150);  
MA (#51298); PA (#PE084236);  
SC (#31691); TN (#123787); VA  
(#0402053544)





## Brittain Storck, ASLA, PLA, CPD

Senior Advisor, Landscape Architect

Britt is a professional landscape architect who has built her career around greenway and trail placemaking, natural resource-based recreation projects, and active community design and planning. She leads Alta's national trail service area and technical resources.

### Relevant Experience

- Atlanta Beltline Westside Trail Extension, GA
- Johnson City Rail Trail Master Plan, TN
- Ecusta Rail-Trail Planning Study and Economic Impact Analysis Hendersonville, NC
- Doodle Rail Trail, Easley and Pickens, SC

### YEARS AT ALTA

11 years

### YEARS OF EXPERIENCE

16 years

### REGISTRATION

Professional Landscape Architect: NC (#1761); GA (#001754); AL (#833)  
CLARB Certified, (#40871)  
Crime Prevention Through Environmental Design (CPTED)  
Professional Designation (CPD)



## Juan Morales, PE

Senior Engineer

Juan is a civil/water resources engineer with more than 20 years of experience including bicycle and pedestrian design and project management. Throughout his career, Juan has also worked on site development, drainage and stormwater management, hydraulic and hydrologic modeling, water and sewer conveyance, geotechnical engineering, stream restoration, and erosion and sediment control plans.

### Relevant Experience

- Caldwell Station Tributary Greenway, Mecklenburg County, NC
- Cross Charlotte Trail 7th-10th Segment, Charlotte, NC
- Cross Charlotte Trail Hidden Valley Segment, Charlotte, NC

### YEARS AT ALTA

2 years

### YEARS OF EXPERIENCE

20 years

### REGISTRATION

Professional Engineer: NC (#039211)



## Chad Thomas, PE

Structural Engineer

Chad is the head of the firm's Structural Division. He has served as Design Engineer on various types of projects. These projects include the structural design and analysis of bridges, building foundations, stormwater, water and wastewater treatment facilities, as well as structural rehabilitation and repairs of bridges, water reservoirs, and other miscellaneous structures.

### Relevant Experience

- Powell River Rail Trail North, Wise County, VA
- Wasena Bridge Replacement (Phase 3), Roanoke, VA
- TDOT - Elizabethton Covered Bridge Rehabilitation; Elizabethton, TN

### YEARS AT MATTERN & CRAIG

22 years

### YEARS OF EXPERIENCE

22 years

### REGISTRATION

Professional Engineer: NC (#043553), TN (#117359), VA (#36962)



## James Voso, PE

### Transportation Engineer



James spent approximately 12 years with the North Carolina Department of Transportation before joining Mattern & Craig. While with NCDOT, he gained valuable experience in all aspects of Civil Engineering and specialized in Traffic Engineering.

#### Relevant Experience

- Bridge Replacement (Traffic Signal & Pavement Marking) Route 33 over I-81 & NSRR; Harrisonburg, VA
- NCDOT - TIP U-5783; US 64 Widening; Henderson County
- Street Rehabilitation; Pigeon Street; Waynesville, NC
- NCDOT DuPont State Forest Pedestrian / Equestrian Bridge; Transylvania County, NC

#### YEARS AT MATTERN & CRAIG

19 years

#### YEARS OF EXPERIENCE

31 years

#### REGISTRATION

Professional Engineer: NC (#22599), SC (#22902), VA (#062935)



## William Buie, PE

### Engineer

William is a Principal/Partner of WGLA. He graduated from North Carolina State University in 1992 with a B.S. Degree in Civil Engineering – Construction Option. William is routinely involved in water and wastewater systems and site planning for local government, industry and private development.

#### Relevant Experience

- Progress Energy Sedimentation and Erosion Control Plans and Permitting Support, Asheville, NC
- Davidson River Village Site Development, Brevard, NC
- Transylvania Regional Hospital Site Development, Brevard, NC

#### YEARS AT WGLA

23 years

#### YEARS OF EXPERIENCE

28 years

#### REGISTRATION

Registered Professional Engineer: NC, SC



## Suzanne Unger Young, PE

### Environmental Engineer



Suzanne is a Senior Environmental Engineer with 26 years of experience in project management, National Environmental Policy Act (NEPA) documentation, watershed management, and public engagement. She manages a wide range of projects, from large-scale rail and highway projects to locally managed active transportation, transit, and roadway projects.

#### Relevant Experience

- Ecusta Rail Trail, Hendersonville, NC
- Leicester Highway Sidewalk Project, Asheville, NC
- 2018 Bicycle Improvements, Durham, NC
- NCDOT Division 5 Environmental and Planning Support On-Call Contract

#### YEARS AT THREE OAKS

7 years

#### YEARS OF EXPERIENCE

26 years

#### REGISTRATION

Professional Engineer: NC (#027800); SC (#31288)

# Chapter 4 | Technical Approach

## Project Scoping and Kickoff

The project scoping and kickoff phase of the project will begin with research and listening. Our team will meet with the County project manager and appropriate staff to review the project corridor and appropriate design elements. **Alta has already done an extensive field walk of the proposed corridor and can attend an additional field walk with County staff, if desired.** Based on the outcome of this meeting, the Alta team will prepare a scope and fee spreadsheet to NCDOT standards, as the project design costs will be reimbursed to the County by NCDOT.

## Client Coordination

The Alta team will help create and deliver a collaborative effort between County staff and appropriate individuals. We take special pride in our ability to generate effective and informative collaborative relationships with our clients and project partners.

- **Regular Team Calls:** Alta believes in effective coordination and communication with our clients. Technology is not a substitute for open and regular communication. Throughout the project, Alta will host weekly, bi-weekly, or monthly coordination calls to keep the project moving forward on schedule and budget.
- **Monthly Progress Reports:** Alta will produce monthly progress reports that summarize tasks completed, and outline tasks to be completed in the coming month.
- **Oversight Committee Meetings:** Alta will present the current project status at the completion of the 30%, 60%, and 90% submittals.

## Existing Conditions and Constraints

The project team will perform a detailed natural systems survey, historic and archeological assessment/survey, ground survey, subsurface utility engineering (SUE) survey, and geotechnical investigation of the corridor.

### Ground Survey

A detailed topographic survey of the corridor will be completed. This survey will be tied to the state survey control network for later use in construction, and generally include topography, stream cross sections, property lines, rights of way, easements, utilities, roadways, culverts, structures, fences, and adjacent buildings. It is our understanding that a property survey was completed as part of the acquisition of the rail corridor. This information will be utilized in the completion of the field survey.

Due to the proposed project schedule, the survey will be completed in phases so design of certain sections can start ASAP, as opposed to waiting for a completed survey of the entire corridor.

### Subsurface Utility Engineering (SUE)

As part of the survey deliverable, the existing underground utilities will be located and mapped. These are mainly expected to occur at roadway crossings but it has been noted based on our field investigations that a gas line is located in a portion of the project. In general, a SUE quality level B survey should suffice for the majority of the project.

### Geotechnical Investigation

A geotechnical investigation of the corridor will be performed to obtain information about the physical properties of the soil. This information will include subgrade recommendations, pavement designs, foundation recommendations for structures, undercut recommendations, and information related to soil shrinkage and swell that will be beneficial in determining accurate earthwork quantities. Given the trail will be built on the existing railroad ballast for the majority of the corridor, geotechnical investigation may be omitted along those sections at the client's discretion.

### Existing Bridge Survey & Analysis

A structural investigation of the existing bridges, their superstructure, and substructure will be performed. The analysis and recommendations obtained from this investigation will be used to develop the proposed bridge designs and load ratings for the structures that can be rehabilitated.



*The existing railroad bridge along project corridor*

### Environmental Documentation

#### NATURAL SYSTEMS AND HISTORIC & ARCHAEOLOGICAL ASSESSMENT SURVEY

The project team will perform a detailed natural systems survey and a historic investigation early on in the design process, which are requirements for LAPP funding. This survey will delineate any wetland boundaries, streams, or endangered species found along the corridor, and provide concurrence of the delineations with USACE and DEQ.





*Wildlife habitat along project corridor*

It should be noted that various endangered species in the region have specific survey windows that must be adhered to. As such, the required surveys will be scheduled to minimize the number of field investigations.

In accordance with the National Historic Preservation Act, the project team will consult with NCSHPO to determine if any properties located along the corridor are listed on or are eligible for listing on the National Historic Register.

It should be noted that during the CE process for the acquisition of the rail corridor property, NCSHPO, Cherokee Nation Tribal Historic Preservation Office, and Catawba Indian Nation Tribal Historic Preservation Office had no concerns at that time. If the proposed design deviations from the existing railroad corridor and/or if any cultural significance are discovered during the field investigation, there may be additional requirements that will need to be incorporated with the proposed design.

#### **THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

Based on the Categorical Exclusion (CE) that was approved for the acquisition of the railroad corridor, the proposed project is expected to meet the requirements for a CE.

In compliance with NEPA, the team will submit the CE to NCDOT, which is the required environmental documentation required by the LAPP process.

In the past, it was typical to submit for the CE between the preliminary and right-of-way design submissions but now the NCDOT approval is only valid for one year from the approval of the CE and bidding of the project. Based on this and the time frames to be able to perform certain endangered species surveys, the CE will be submitted at the 90% design phase. This will give the County a buffer on the CE approval in the event bidding is delayed for an unforeseen circumstance.

#### **FEMA COMPLIANCE**

Approximately 8,100 feet of the proposed trail is within the 100-year floodplain. In addition, there is a floodway associated with Wash Creek. As such, it is imperative that the proposed design does not cause any increases in the floodplain elevation and/or any fill material in a floodway. The Alta team will model the areas within the floodplain and floodway and revise the design, as necessary, in an attempt to achieve a no-rise certification. Achieving a no-rise certification

is important to avoid schedule delays and increased design and permitting costs for a Conditional Letter of Map Revision (CLOMR) if the floodplain elevation does increase based on the proposed design.

#### **Permitting**

We use an open communication approach in our design efforts in order to streamline the permitting process, and have great working relationships with the permitting agencies.

Our team will meet early in the design process with representatives from the County, NC Department of Environmental Quality (NCDEQ)-DWR, the US Army Corps of Engineers (USACE), FEMA, and other regulatory agencies to discuss the preliminary design and permits that will be required for the project. Information we expect to obtain from these meetings include determining Section 401/404 Clean Water Act permit requirements, stormwater permitting requirements, and any specific planning or zoning requirements specific to the County.

### **Preliminary Design (30% Plans)**

Once the existing conditions and constraints have been identified and mapped, the project will enter the preliminary design phase. The design will be consistent with the Henderson County Rails to Trails RFLOI, 2012 PROWAG Design standards, AASHTO Guide for the Development of Bicycle Facilities, and NCDOT design standards.

These plans will establish the horizontal and vertical alignment of the trail, interaction with existing streets and sidewalks, and develop the roadway crossing solutions, as well as provide grading, storm drainage concepts, retaining wall concepts (if required), bridge rehabilitation and/or replacement concepts, and anticipated utility impacts.

Given the proposed design schedule, it is imperative to lock down the proposed horizontal and vertical alignment at preliminary design as much as possible to avoid major changes in the design later in the project. Typically, with rail-to-trail projects, the trail is positioned along the existing rail bed. There are various locations where the existing railbed is located near steep slopes, watercourses, and/or existing right-of-way where it may be advantageous to move the proposed alignment from the existing railbed. Alta will investigate these critical areas and move the trail alignment as appropriate to avoid any potential property acquisitions, watercourse scour, and/or slope failures.



*Steep slopes adjacent to the existing railbed*



The proposal trail crosses various roadways. As this is an NCDOT funded project, the proposed roadway crossings will be designed per the NCDOT Pedestrian Crossing Treatment Evaluation Guidance document.

Along with the preliminary design, the Alta team will develop an opinion of probable cost based on recent construction costs and market trends. Our team has been designing and bidding municipal and LAPP funded greenways in NC for several years, and can pull on this historical data to help refine costs associated with bid items. We understand that trail construction is driven more by production rates than material costs, and that historical highway bid tabulation data will under-budget the project.

At the completion of the preliminary design phase, the plans will be presented to the public for comment for a typical NCDOT project and submitted to Henderson County and NCDOT for review. Our team will work with the County and NCDOT to make any required revisions to the plans to achieve preliminary plan approval. If the County desires to have additional public participation above and beyond the requirements of NCDOT and the NEPA process, the Alta team is well experienced to provide additional public outreach, as desired in a variety of formats.

## Utility Impacts and Relocation Plans

The utility relocation process will need to begin as the preliminary plans are developed. As soon as the project is designed to the necessary level, the Alta team will begin assembling and reaching out to the utility providers along the corridor.

Based on our field investigations, we have only noted an underground gas line on a portion of the trail alignment, which should not be impacted as the trail is expected to be built on top of the existing railroad ballast to the greatest extent possible. However, there could be additional requirements for the gas utility owner and in addition, there may be a desire for pedestrian/bicycle accommodations along intersecting streets along the project that could impact other utilities like utility poles. As such, it is important to identify all potential utility conflicts as soon as possible as utility relocations are one of the items that can derail a project schedule and budget.

The LAPP process requires utility impact determinations and relocation plans to obtain right-of-way authorization (approval from NCDOT to begin right-of-way acquisition and/or approval). As part of this process, the County will need to provide documentation from the Alta team to NCDOT that the utilities have been coordinated and that any needed easements have been identified and are included on the plans.

## Stormwater Design

As expected for a former railroad corridor, there are swales along the railbed for the majority of the project with existing cross culverts at various locations under the trail and at roadway crossings. Typically, on a rail-to-trail project, the proposed trail cross section is crowned to maintain drainage flow to the existing swales if they

are present on both sides. Given the existing ballast in the majority of the corridor, it cannot accommodate a 10-foot-wide trail with the minimum 2-foot-wide shoulders on both sides and will require fill material. The Alta team will investigate whether creating a sloped trail cross section on portions of the project can minimize the need for swales on both sides where they are present and reconstructed cross culverts to minimize cost.



*Example of existing swales along the corridor*

Regardless of the final decision of the trail cross slope design, required swales, and cross culverts, the Alta team will provide hydraulic analysis and design per NCDOT standards.

In addition to the unlikely event that an existing railroad bridge is converted to a culvert, the Alta team will also design those elements and provide hydraulic analysis to the appropriate storm design frequency per NCDOT standards.

## Structural Design

Our team has extensive structural design experience as it relates to pedestrian bridges. Our engineers will work with the County to determine the most cost-effective structure from an initial installation perspective, as well as a future maintenance perspective. Given this project corridor is a rail-to-trail and the right-of-way has been acquired via railbanking, it is desirable to maintain the existing railroad bridges to the extent possible for the small chance this corridor becomes an active railroad again.

While the existing railroad bridges are in a state of deterioration due to a lack of maintenance as the corridor has not been used for active rail for many years, the existing bridge structures may be suitable for rehabilitation for the use as a trail. While the existing structures were built for train loads, the required loads for trail use are only needed for maintenance/emergency vehicle loads and any existing deterioration of the bridge support structures may still be suitable for the required trail loads and only need preventative maintenance measures, in addition to building a suitable deck for the trail.

Based on the determination of the structural inspections, the individual bridge spans will be identified as spans that can be rehabilitated for the desired use or in need of replacement.



*Example of a rehabilitated railroad bridge on the Arkansas Delta Heritage Trail (led by Alta)*

If the spans are identified as ones that can be rehabilitated, we will present various options to the client for selection based on cost and maintenance. For instance, a timber bridge deck will be less in cost but will be more in maintenance, where a concrete bridge deck will be more in cost but less in maintenance.

In the event that an existing railroad bridge is not salvable, then the next anticipated options would be for a pre-fabricated pedestrian bridge or a drainage culvert. A drainage culvert would be less desirable from an environmental standpoint but would be a less expensive option. Our team would coordinate with the appropriate agencies (ACOE and DEQ) for an option that would receive environmental permit approval.

There also may be a need for retaining walls along specific locations along the corridor due to steep slopes and/or a desire to prevent grading onto private properties that may require the need for temporary construction easements. The Alta team will attempt to align the proposed trail to avoid the need for retaining walls but if there are areas that may need walls, the Alta team will design the required retaining walls per NCDOT requirements.

## Right-of-Way Design (60% Plans)

The right-of-way plans will refine and progress the preliminary design plans. NCDOT typically grants right-of-way authorization after approval of this submittal. These plans are expected to include at a minimum: trail design, cross sections, finalized right-of-way and easement limits, stormwater design, construction details, sediment and erosion control plans, temporary traffic control plans, pavement marking plans, signal plans (as needed), landscape plans, and utility relocation plans. With this review, the Alta team will revise the opinion of probable cost based on the plan changes and update the construction costs based on any new data or market trends.

## Right-of-way Authorization

Alta will work with the County and NCDOT to make any required revisions to the plans to achieve the right-of-way authorization. This is one of four key steps on the way to obtaining federal funding authorization. Once right-of-way authorization is granted, the County will be cleared to begin the right-of-way process and can be reimbursed for any right-of-way expenses.

It should be noted that the proposed trail is to be within the existing railroad right-of-way that has been acquired. Based on the proposed design schedule, even temporary construction easements need to be avoided. Even if a property acquisition is temporary, acquisition of the needed area will be required to meet federal requirements and will result in a delay in the proposed project schedule.

The Alta team will provide a design that does not require any property acquisition to the extent possible.

## Final Designs, Specs, and Estimate (90% and PS&E)

After approval of the rights-of-way design, our team will prepare plans, specifications, and estimates for a 90% and final design submission for the project in compliance with the guidelines set forth by the NCDOT LAPP program and FHWA.

The 90% and final plan submissions will refine and progress the rights-of-way design submission to a level that is suitable for construction. These plans are expected to include and address any comments from the County and NCDOT reviews. In addition, at the 90% design phase, a project manual will be developed and will contain the appropriate current NCDOT special provisions, federal provisions, as well as information related specifically to the project, such as project special provisions, identified environmental commitments, liquidated damages, intermediate contract times, and DBE requirements.

**Alta has experience leading Locally Administered Projects as shown:**

- EB-5114 - Mount Holly Riverfront Greenway
- U-5530NA - RTP/Morrisville Davis Drive Trail
- EB-5825 - West A Street, Newton, NC
- U-4726 - Cornwallis Road (SR 2258) Bike and Ped Improvements
- C-5604HA - Mingo Creek Greenway Extension
- EB-5790 - River Arts District & South Slope Asheville, NC
- C-5605E - Durham Bike Lanes
- C-5605I - Durham Bike Boulevards
- C-5604OE - Gorman St. Connector
- U-5530OB - Leesville Road Safe Routes to School

In addition to the Alta LAPP projects listed, the entire project team has additional LAPP project experience not listed but can be provided, if requested.

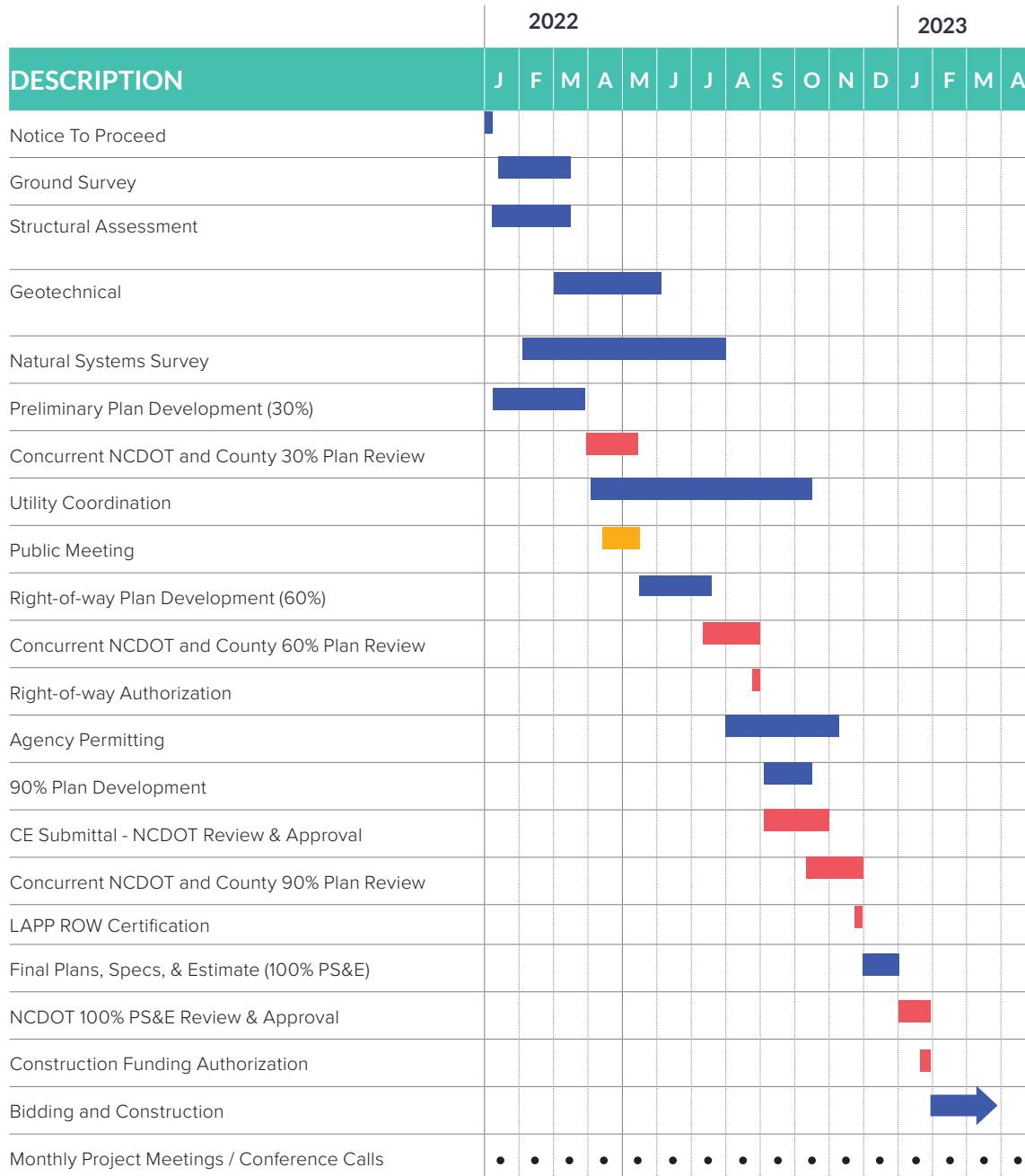
The estimate will also be updated based on the plan changes, and unit costs will be adjusted to reflect the current market conditions. This estimate will be provided to NCDOT to set the project's DBE requirements which will in-turn be reflected in the final specification manual.

## Bidding Assistance

Once the project receives NCDOT construction authorization, the Alta team will provide bidding assistance for the project. Our team will work with the County to produce bid advertisements, run a pre-bid meeting (if desired), issue addenda as needed, assist in conducting a bid opening, and prepare a tabulation of bids to the County Commissioners for approval.

## Project Schedule

■ Task in Progress   ■ NCDOT and County Review   ■ Community Engagement   ● Monthly Meetings/Calls



The proposed schedule assumes design submission review time of 6 weeks and no property acquisition, either permanent and/or temporary. Natural Systems Survey schedule is shown as is due to certain species requiring specific times of the year that certain surveys can be completed. A public meeting is shown between the completion of 30% design and the start of 60% design. Additional public outreach can be provided as desired by the client.

# Appendix | Forms

Prime Form RS-2

REV 1/14/08

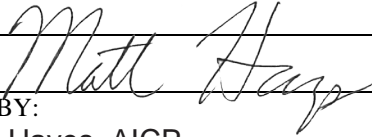
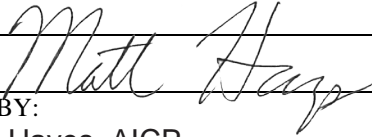
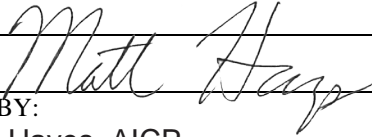
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
PRIME CONSULTANT  
TO BE USED WITH PROFESSIONAL SERVICES CONTRACT ONLY  
RACE AND GENDER NEUTRAL**

**Ecusta Rail-Trail, TIP BL-0007**

*TIP No. and/or Type of Work (Limited Services)*

**Alta Planning + Design, Inc. 68-0465555**

*(Consultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>	<i>Anticipated Utilization</i>														
NCDOT Code: 171 Public Involvement	1%														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><b>TOTAL UTILIZATION:</b></td> <td style="width: 40%; text-align: center;">1%</td> </tr> <tr> <td colspan="2"><b>RECOMMENDED BY:</b></td> </tr> <tr> <td colspan="2">CONSULTANT:</td> </tr> <tr> <td colspan="2" style="text-align: center;"></td> </tr> <tr> <td colspan="2">*BY: Matt Hayes, AICP</td> </tr> <tr> <td colspan="2">TITLE: Vice President</td> </tr> <tr> <td style="width: 30%;">SPSF Status:</td> <td>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></td> </tr> </table>		<b>TOTAL UTILIZATION:</b>	1%	<b>RECOMMENDED BY:</b>		CONSULTANT:				*BY: Matt Hayes, AICP		TITLE: Vice President		SPSF Status:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>TOTAL UTILIZATION:</b>	1%														
<b>RECOMMENDED BY:</b>															
CONSULTANT:															
															
*BY: Matt Hayes, AICP															
TITLE: Vice President															
SPSF Status:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														

**“PRIME CONSULTANT” (FORM RS-2)**  
**RACE AND GENDER NEUTRAL**

**Instructions for completing the Form RS-2:**

1. Complete a Prime Consultant Form RS-2 for the prime consultant firm.
2. Insert TIP Number and /or Type of Work (Limited Services)
3. Complete the Consultant/Firm name and Federal Tax ID Number for the primary firm information.
4. Enter Service/Item Description – describe work to be performed by the Prime Firm
5. Enter Anticipated Utilization – Insert dollar value or percent of work to the Prime Firm
6. \*Signature of the Prime Consultant **is required** on each RS-2 Form to be submitted with the Letter of Interest (LOI) to be considered for selection
7. Complete “SPSF Status” section - Check the appropriate box regarding SPSF Status, check Yes if SPSF or No if not SPSF



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Ecusta Rail-Trail, TIP BL-0007



*TIP No. and/or Type of Work (Limited Services)*

Alta Planning + Design, Inc. 68-0465555

*(Consultant/Firm Name and Federal Tax Id)*

Alta Engineering SE, PLLC. 46-4815088

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
NCDOT Codes: 60, 207, 247, 269, 270, 132, 316		34%
<b>TOTAL UTILIZATION:</b>		34%
<b>SUBMITTED BY:</b> SUBCONSULTANT:	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
		
*BY: George Hudson	*BY: Matt Hayes, AICP	
TITLE: Manager	TITLE: Vice President	<input type="text"/>
SPSF Status:    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

**“SUBCONCONSULTANT” (FORM RS-2)**  
**RACE AND GENDER NEUTRAL**

**Instructions for completing the Form RS-2:**

1. Complete a Subconsultant Form RS-2 for each Subconsultant firm to be utilized by your firm.
2. Insert TIP Number and /or Type of Work (Limited Services)
3. Complete the Consultant/Firm name and Federal Tax ID Number for the primary firm information.
4. Complete the Subconsultant/Sub Firm name and Federal Tax ID Number for the sub firm information.
5. Enter Service/Item Description – describe work to be performed by the Sub Firm
6. Enter Anticipated Utilization – Insert dollar value or percent of work to the Subconsultant/Sub Firm
7. \*Signatures of both Subconsultant and Prime Consultant **are required** on each RS-2 Form to be submitted with the Letter of Interest (LOI) to be considered for selection
8. Complete “SPSF Status” section - Subconsultant shall check the appropriate box regarding SPSF Status, check Yes if SPSF or No if not SPSF

In the event the firm has **no** subconsultant, **it is required that this be indicated on the Subconsultant Form RS-2 form by entering the word “None” or the number “ZERO” and signing the form.**

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**Ecusta Rail-Trail, TIP BL-0007**


*TIP No. and/or Type of Work (Limited Services)*

**Alta Planning + Design, Inc. 68-0465555**

*(Consultant/Firm Name and Federal Tax Id)*

**Mattern & Craig, Inc. 54-1206720**

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
70 ,143, 155, 199, 207, 289, 338, 433, and 434		35%
<b>TOTAL UTILIZATION:</b>		<b>35%</b>
<b>SUBMITTED BY:</b> SUBCONSULTANT:	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
		
*BY: Mattern & Craig, Inc.	*BY: Matt Hayes, AICP	
TITLE: James B. Voso, PE; Vice-President	TITLE: Vice President	
SPSF Status: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**"SUBCONSULTANT" (FORM RS-2)  
RACE AND GENDER NEUTRAL**

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7. \*Signatures of both Subconsultant and Prime Consultant are required on each RS-2 Form to be submitted with the Letter of Interest (LOI) to be considered for selection
8. Complete "SPSF Status" section - Subconsultant shall check the appropriate box regarding SPSF Status, check Yes if SPSF or No if not SPSF

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Ecusta Rail-Trail, TIP BL-0007

*TIP No. and/or Type of Work (Limited Services)*

Alta Planning + Design, Inc. 68-0465555

*(Consultant/Firm Name and Federal Tax Id)*

WGLA Engineering, PLLC 56-1496448

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
Support related to public involvement, engineering and building site design		<b>10%</b>
<b>TOTAL UTILIZATION:</b>		<b>10%</b>
<b>SUBMITTED BY:</b> SUBCONSULTANT:	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
<i>William R. Buie</i>	<i>Matt Hayes</i>	
*BY: William R. Buie, P.E.		
TITLE: Member/Manager	*BY: Matt Hayes, AICP	
	TITLE: Vice President	
SPSF Status:    Yes <input type="checkbox"/> No <input type="checkbox"/>		

**“SUBCONCONSULTANT” (FORM RS-2)  
RACE AND GENDER NEUTRAL**

**Instructions for completing the Form RS-2:**

1. Complete a Subconsultant Form RS-2 for each Subconsultant firm to be utilized by your firm.
2. Insert TIP Number and /or Type of Work (Limited Services)
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4. Complete the Subconsultant/Sub Firm name and Federal Tax ID Number for the sub firm information.
5. Enter Service/Item Description – describe work to be performed by the Sub Firm
6. Enter Anticipated Utilization – Insert dollar value or percent of work to the Subconsultant/Sub Firm
7. \*Signatures of both Subconsultant and Prime Consultant **are required** on each RS-2 Form to be submitted with the Letter of Interest (LOI) to be considered for selection
8. Complete “SPSF Status” section - Subconsultant shall check the appropriate box regarding SPSF Status, check Yes if SPSF or No if not SPSF

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**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
SUBCONSULTANT  
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**Ecusta Rail-Trail, TIP BL-0007**


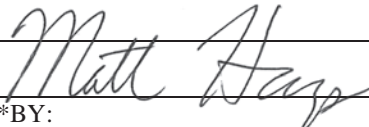
*TIP No. and/or Type of Work (Limited Services)*

**Alta Planning + Design, Inc. 68-0465555**

*(Consultant/Firm Name and Federal Tax Id)*

**Summit Design and Engineering Services, PLLC 30-0236228**

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
NCDOT Work Codes: 294, 295, 296, 297, 332, 338		<b>10%</b>
<b>TOTAL UTILIZATION:</b>		10%
<b>SUBMITTED BY:</b> SUBCONSULTANT:	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
		
*BY: Patrick Cummings, PE	*BY: Matt Hayes, AICP	
TITLE: Vice President - NC Branch	TITLE: Vice President	
SPSF Status: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

**“SUBCONCONSULTANT” (FORM RS-2)  
RACE AND GENDER NEUTRAL**

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Ecusta Rail-Trail, TIP BL-0007

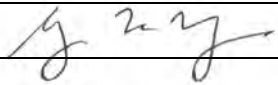
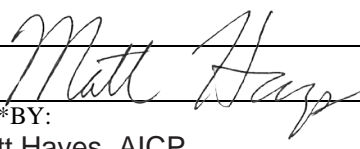
*TIP No. and/or Type of Work (Limited Services)*

Alta Planning + Design, Inc. 68-0465555

*(Consultant/Firm Name and Federal Tax Id)*

Three Oaks Engineering, Inc. 46-4379744

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
32 CE; 63 EA / FONSI; 171 Public Involvement; 243 T&E Species Survey; 280 Wetlands & Stream Delineation		<b>8%</b>
<b>TOTAL UTILIZATION:</b>		<b>8%</b>
<b>SUBMITTED BY:</b> SUBCONSULTANT: Three Oaks Engineering, Inc.	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
		
*BY: Suzanne Unger Young, PE	*BY: Matt Hayes, AICP	
TITLE: President	TITLE: Vice President	
SPSF Status: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**“SUBCONCONSULTANT” (FORM RS-2)**  
**RACE AND GENDER NEUTRAL**

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**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
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Ecusta Rail-Trail, TIP BL-0007


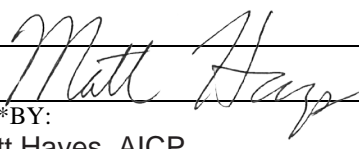
*TIP No. and/or Type of Work (Limited Services)*

Alta Planning + Design, Inc. 68-0465555

*(Consultant/Firm Name and Federal Tax Id)*

MDM Historical Consultants 26-2687274

*(Subconsultant/Firm Name and Federal Tax Id)*

<i>SERVICE / ITEM DESCRIPTION</i>		<i>Anticipated Utilization</i>
Work related to NCDOT code 106: Historic Architectural Surveys of Standing Structures		2%
<b>TOTAL UTILIZATION:</b>		2%
<b>SUBMITTED BY:</b> SUBCONSULTANT:	<b>RECOMMENDED BY:</b> CONSULTANT: Alta Planning + Design, Inc.	
		
*BY:	*BY: Matt Hayes, AICP	
TITLE:	TITLE: Vice President <span style="border: 1px solid black; display: inline-block; width: 50px; height: 15px; vertical-align: middle;"></span>	
SPSF Status:    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

**“SUBCONCONSULTANT” (FORM RS-2)**  
**RACE AND GENDER NEUTRAL**

**Instructions for completing the Form RS-2:**

1. Complete a Subconsultant Form RS-2 for each Subconsultant firm to be utilized by your firm.
2. Insert TIP Number and /or Type of Work (Limited Services)
3. Complete the Consultant/Firm name and Federal Tax ID Number for the primary firm information.
4. Complete the Subconsultant/Sub Firm name and Federal Tax ID Number for the sub firm information.
5. Enter Service/Item Description – describe work to be performed by the Sub Firm
6. Enter Anticipated Utilization – Insert dollar value or percent of work to the Subconsultant/Sub Firm
7. \*Signatures of both Subconsultant and Prime Consultant **are required** on each RS-2 Form to be submitted with the Letter of Interest (LOI) to be considered for selection
8. Complete “SPSF Status” section - Subconsultant shall check the appropriate box regarding SPSF Status, check Yes if SPSF or No if not SPSF

In the event the firm has **no** subconsultant, **it is required that this be indicated on the Subconsultant Form RS-2 form by entering the word “None” or the number “ZERO” and signing the form.**