## William Akabi-Davis (919) 707-6211

### **ROADWAY DESIGN**

### wakabidavis@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
201	Rural Roadway Design	Entry level for smaller and less complex projects, i.e. bridge replacement projects, safety projects and rural widening projects.	Roadway Engineer	P.E.		P.E.	Must submit sample plans sho and vertical alignments with c interchanges, typical sections Microstation/Geopack Softwa users/technicians.
269	Urban Roadway Design	More complex urban widening and new location projects with increased project impact restrictions due to dense residential and/or commercial development.	Roadway Engineer	P.E.		P.E.	Must submit sample plans sho and vertical alignments with c interchanges, typical sections Microstation/Geopack Softwa users/technicians.
126	Interchange Design	Required for any projects that have interchanges in the scope of work.	Roadway Engineer	P.E.		P.E.	Must submit sample plans sho and vertical alignments with c interchanges, typical sections Microstation/Geopack Softwa users/technicians.
314	Roadway Lighting	Roadway lighting layout design for fully controlled-access interchanges and for continuous sections between interchanges. Design utilizes a combination of high mast light standards, shoulder mount light standards, median mount light standards, underpass lighting if needed, light control and circuitry to meet the AASHTO lighting requirements.	Roadway Engineer	P.E.		P.E.	Must meet the "Necessary Exp Design Guide, dated October 2 construction plans, correspond software and sample voltage o

### Additional Requirements

owing sufficient design capacity, including horizontal curve data, design information for intersections and and cross sections. Statement of CADD capability – are is required, including names of CADD

owing sufficient design capacity, including horizontal curve data, design information for intersections and and cross sections. Statement of CADD capability – are is required, including names of CADD

owing sufficient design capacity, including horizontal curve data, design information for intersections and and cross sections. Statement of CADD capability – are is required, including names of CADD

pertise" stated in the AASHTO Roadway Lighting 2005. Must submit sample of work, including lighting nding lighting photometric plans using lighting design drop calculation for circuit design.

be qualified for Division p construction costs exceed	407 LC	Low Impact Division Managed Roadway Design	Entry level design for smaller and less complex projects, i.e. bridge replacement projects, safety projects and rural widening projects advertised at the Division level.	Roadway Engineer	P.E.	Ρ	b.E. and vertical alignments w interchanges, typical sect including software type a users/technicians is requi be limited to Division let be qualified for Division p
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owing sufficient design capability including horizontal curve data, design information for intersections and s and cross sections. Statement of CADD capability names with experience level of CADD . Firms without Microstation/Geopack capability will jects. Firms with Microstation/Geopack capability will ects that are centrally let (Division projects with \$\$1,200,000.00).

James Dodson

(919) 707-6800

LOCATION AND SURVEYS

jdodson@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
92	GPS	Global Positioning System Surveying	Land Surveyor	P.L.S.		L.S.	Must submit a list of GPS surve adjustment (not VRS or Opus) s closures and adjusted coordina
235	SUE	Subsurface Utility Engineering	Land Surveyor	P.L.S.		L.S.	Must submit a list of SUE surve location equipment and non-da
199	Route Location Surveys	Conventional Surveying	Land Surveyor	P.L.S.		L.S.	Must submit a list of convention survey – the example must hav bearing distances and curve da PDF of the plans is acceptable. preferable 11" x 17" or smaller
104	High Density Laser Scanner	High Density Laser Scanner	Land Surveyor	P.L.S.		L.S.	Must submit a list of High Dens
112	Hydrographic Surveys	Hydrographic Surveys	Land Surveyor	P.L.S.		L.S.	Must submit a list of hydrograg equipped with a sonar integrat

### Additional Requirements

eying equipment, an example of a static network showing a diagram of your network, raw coordinates, ates and a GPS site calibration or site localization.)

eying equipment including surface geophysical Jamaging excavating equipment.

onal surveying equipment and an example of a route ve a tie to control monumentation and must have ata on the alignment. Either a hard copy or electronic . Hard copy should be no more than 2 pages, r, and the text must be legible.

sity Laser Scanning equipment.

phic surveying equipment which must include a boat ted with a GPS receiver.

### HYDRAULIC DESIGN

## Brian Radakovic (919) 707-6747

### <u>bmradakovic@ncdot.gov</u>

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
433	Tier I Basic Hydrologic and Hydraulic Design	<ul> <li>a) Roadway drainage design, including ditches, small pipe culverts, storm sewer systems, outfall analysis, drainage investigations, etc.</li> <li>b) Bridge and/or culvert design over streams using the Federal Highway Administration (FHWA) design guidelines, such as Hydraulic Design Series 5, 7, etc.</li> <li>c) Drainage design using the North Carolina Department of Transportation "Stormwater Best Management Practices Toolbox".</li> </ul>	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Submit samples of the approv calculations/models for a, b ar Proof of work experience may Engineers who have worked a and/or Engineer with a minim hydrologic and hydraulic proje

### Additional Requirements

ved design reports and/or hydraulic and c.

y be waived by the State Hydraulics Engineer for at NCDOT Hydraulics Unit as an Engineering Supervisor num of five (5) years in review and/or design of jects in the Unit.

434	Tier II Complete Hydrologic and Hydraulic Design	<ul> <li>a) Tier I, plus:</li> <li>b) Design of bridges and culverts over FEMA regulated streams that require coordination and approvals from FEMA or their designees.</li> </ul>	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Meet all the requirements of Firm is required to prepare dr Geopak Drainage Software. Fi engineer or engineering techr Geopak Drainage Software. Submit samples of the approv used for the review and approv Proof of work experience may Engineers who have worked a and/or Engineer with a minim and hydraulic projects in the U
479	Tier III Complex Hydraulic Design	<ul> <li>a) Tier II, plus:</li> <li>b) Two-dimensional (2D) hydraulic modeling design experience for bridges over streams that are under the influence of turbulent, unsteady flow, etc.</li> </ul>	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Meet all the requirements of Must submit samples of the a hydraulic modeling.
480	Tier IV Unique Hydraulic Engineering (UHE) – National Flood Insurance Program	Extensive knowledge of the NFIP and experience in hydraulic model design, FEMA flood map revision, and review of hydraulic modeling for bridges and/or culverts over FEMA regulated streams under contract with FEMA or their designees.	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Submit samples of the approv the contracts with FEMA and/ Firm is required to have and u
481	Tier IV Unique Hydraulic Engineering (UHE) – National Pollutant Discharge Elimination System (NPDES)	Extensive knowledge of the US Environmental Protection Agency's NPDES program and experience in watershed pollutant load modeling (Total Maximum Daily Load or TMDL)	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Submit samples of NPDES con approved by the State and/or Proof of work experience may Engineers who have worked a and/or Engineer - Advanced v reviewing NPDES compliance

Tier I.

rainage plans using the Microstation CADD and irm must have one hydraulic design engineer and one nician with experience using Microstation CADD and

ved design reports and hydraulic models that were oval by FEMA or their designees.

y be waived by the State Hydraulics Engineer for at NCDOT Hydraulics Unit as an Engineering Supervisor num of 15 years in review and/or design of hydrologic Unit.

Tier II.

approved design reports and design models using 2-D

ved review/design reports and hydraulic models under /or their designees.

use Microstation CADD Software.

mpliance reports and TMDL models that were r Federal Agencies.

y be waived by the State Hydraulics Engineer for at NCDOT Hydraulics Unit as an Engineering Supervisor with a minimum of 10 years in managing and tasks in the Unit.

482	Tier IV Unique Hydraulic Engineering (UHE) – Coastal Hydraulic Engineering	Extensive knowledge and experience of coastal hydrodynamics and simulation models using RMA2 (Resource Management Associates), ADCIRC (Advanced Circulation Model for Coastal Ocean Hydrodynamics) and SWAN (Simulation Waves Near Shore) software.	Hydraulic/ Hydrologic Engineer	P.E.	1	P.E.	Submit samples of the approv areas.

ved design reports and hydraulic models in the coastal

## STRUCTURE MANAGEMENT

### **PRECONSTRUCTION – BRIDGE DESIGN**

mf	ores@ncdot.gov	

**Melissa Flores** 

(919) 707-6406

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
23	Bridges – Spans Over 200'		Two (2) Bridge Design Engineers	One (1) P.E.		P.E.	An example of highway bridge experience shown in Key Perso
24	Bridges – Spans Under 200'		Two (2) Bridge Design Engineers	One (1) P.E.		P.E.	An example of highway bridge experience shown in Key Perso

### Additional Requirements

e plans may be required, depending on past onnel's resume(s).

e plans may be required, depending on past onnel's resume(s).

## STRUCTURE MANAGEMENT

### **STRUCTURE MANAGEMENT**

|--|

Melissa Flores

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
329	Electrical & Mechanical Design for Moveable Bridge Systems	Provide inspection, rehabilitation, troubleshooting and design for electrical and mechanical systems on moveable span bridges.	One (1) Electrical and One (1) Mechanical Engineer	P.E.	10	P.E.	Must submit examples of wor electrical and mechanical syst
319	Load Testing & Finite Analysis	Field Load Testing and Finite Element Modeling of Structures	Two (2) Engineers	One (1) P.E.	5	P.E.	Must demonstrate that it has submit samples of work incluc results. Firm is responsible fo the field load test.
444	Load Rating	Load Rating of NBIS Structures	Two (2) Engineers	One (1) P.E.	3	P.E.	Must submit samples of work. perform finite element analys segmental bridges, rate cable culverts. Must submit results
143	NBIS Bridge Inspection	NBIS Safety Inspection of Bridges	Team Leader(s)	P.E.		P.E.	Non-PE Inspection Team Lead inspection experience and mu Safety Inspection of In-Service successfully completed the NH Course 130055. Firm must de NCDOT WIGINS program.
486	Structure Durability Analysis/Condition Assessment	Provide service life evaluation of bridges	Engineer	P.E.	10	P.E.	Must submit examples of wor the use of numerical modeling residual service life.

(919) 707-6406

### Additional Requirements

rk over the past 10 years that indicate experience with tems on moveable span bridges.

Field Tested a minimum of five (5) structures. Must ding calculations, finite element models and load test or turnkey job including trucks and traffic control for

Firm may be required to demonstrate ability to sis, rate gusset plates, rate curved girder bridges, rate stayed bridges and rate reinforced concrete box in a format that is compatible with NCDOT Standards.

lers must have at least five (5) years of bridge safety ust have successfully completed the NHI two week Bridges Course 130055. PE Team Leaders must have HI two week Safety Inspection of In-Service Bridges emonstrate its ability to perform inspections using the

rk over the past 10 years that indicate experience with g software to provide probabilistic assessment of

## STRUCTURE MANAGEMENT

### STRUCTURE MANAGEMENT

**Melissa Flores** 

(919) 707-6406

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
487	Non Destructive Testing & Evaluation	Testing and evaluation of bridge deterioration	Engineer	P.E.	10	P.E.	Must submit examples of work the use of NDT/NDE technique deterioration levels of bridge c
488	Structure Health Monitoring		Engineer	P.E.	10	P.E.	Must submit examples of work instrumentation, detailed inter rating and/or safety of highwa
489	Bridge Painting QA/QC	Construction engineering and inspection	Project Manager	PE and NACE Level III	10	P.E.	Technicians performing work s inspection experience, be NAC completed the NCDOT M&T In
537	Asset Management System Implementation	Engineering support for related functionality in the Department's Asset Management System (AMS)	Team Leader	One (1) P.E.	5	P.E.	Demonstrate experience in As
538	Bridge Management Best Practices	Engineering support for structures related functionality in the Department's Asset Management System (AMS)	Team Leader	One (1) P.E.	5	P.E.	Demonstrate experience in bo expertise in bridge manageme

### Additional Requirements

k over the past 10 years that indicate experience with es (GPR, IR, UT, laser measurement, etc) to determine decks, superstructure and substructure.

k over the past 10 years that indicate experience with rpretation of results, and recommendations on load ay structures.

shall have a minimum of 12 months field painting CE Level I certified (or equivalent), and have aspector Level I Certification course.

set Management System functionality.

oth Asset Management System functionality and ent best practices.

## David Hinnant (919) 707-7050

### dbhinnant@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	А
276	Visualization	Renderings - 2D images created from 3D models of the proposed project using CADD data in programs such as Microstation and Autodesk 3ds Max.					Three (3) examples from differ
		Photosimulations – Renderings that are superimposed and blended into an existing site photo, including post processing work in programs such as Adobe Photoshop.					Three (3) examples from differ
		Animations - A video product produced by rendering 24-30 images/frames per second, most often used to show a flyover or drive thru of a project, including post processing through programs such as Adobe Premiere or After Effects.					Three (3) examples from differ

### VISUALIZATION

Additional Requirements

rent Highway/Transportation projects.

rent Highway/Transportation projects.

rent Highway/Transportation projects.

### **GEOTECHNICAL ENGINEERING SERVICES**

<u>cchen@ncdot.gov</u>	

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	4
294	Roadway Foundation Investigation & Design		Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person the each role. For each key perso
			Project Geologist or Geological Engineer	L.G. or P.E.	5		sealed by the key person and contractor/ subcontractor mu Geotechnical Investigations, a overgrown areas, obtain N ar mud borings.
295	Structure Foundation Investigation & Design	Shallow and Deep Foundations	Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person that each role. For each key person example and one (1) deep four similar work that are in accord <i>Specifications,</i> were sealed by (3) years. Drilling contractor/9 3050: Drilling for Geotechnical access wooded and overgrow borings and 200ft mud boring
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
296	Retaining Wall Investigation & P Design	caining Wall Investigation & Post-Bid Design Retaining Walls Design	Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person that each role. For each key person wall example that have at least or similar work sealed by the H years. Drilling contractor/sub Drilling for Geotechnical Invest wooded and overgrown areas and 200ft mud borings.
			Project Geologist or Geological Engineer	L.G. or P.E.	5		

Chris Chen (919) 707-6876

#### Additional Requirements

at is a permanent employee of the firm is required for on, submit two (2) examples of DOT or similar work completed within the last three (3) years. Drilling ust be prequalified for work code 3050: Drilling for and equipment must be able to access wooded and of H size cores and drill 120ft SPT borings and 200ft

at is a permanent employee of the firm is required for on, submit one (1) shallow or driven pile foundation undation example other than driven piles of DOT or dance with the AASHTO LRFD Bridge Design y the key person and completed within the last three subcontractor must be prequalified for work code al Investigations, and equipment must be able to yn areas, obtain N and H size cores and drill 120ft SPT gs.

at is a permanent employee of the firm is required for on, submit one (1) cut wall example and one (1) fill st 1500sf of wall face area. Submit examples of DOT key person and completed within the last three (3) ocontractor must be prequalified for work code 3050: stigations, and equipment must be able to access s, obtain N and H size cores and drill 120ft SPT borings

### **GEOTECHNICAL ENGINEERING SERVICES**

cchen@ncdot.gov
denten en reading of

**Chris Chen** 

(919) 707-6876

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
297	Pavement Design Investigation	Subgrade Design and Chemical Stabilization	Geotechnical Engineer Project Geologist or Geological Engineer	P.E. L.G. or P.E.	5	P.E.	At least one (1) key person that each role. For each key person description of work sealed by to (3) years. Experience with usin data, and recovering pavement Drilling contractor/subcontract for Geotechnical Investigations pavement cores per rig per data and drill pavement borings to a

### Additional Requirements

hat is a permanent employee of the firm is required for on, submit an example of DOT or similar work for each of the key person and completed within the last three ing dynamic cone penetrometers, collecting load cell ont cores using thin walled core barrels is required. ctor must be prequalified for work code 3050: Drilling ns, and equipment must be able to complete 20 ay, obtain 4" to 6" dia. pavement cores up to 24" thick of a depth of 20 ft.

### **GEOENVIRONMENTAL SERVICES**

## Cyrus Parker (919) 707-6868

cfparker@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
330	Hazardous Waste Site Analysis & Remediation		Geoenvironmental Geologist/Engineer	L.G. or P.E.	5	L.G. or P.E.	At least one (1) key person that the geologist or engineer. For similar work sealed by the key years. Experience with hazardo brownfields or dry cleaning solu

### PRECONSTRUCTION

## Cyrus Parker (919) 707-6868

**GEOPHYSICAL SERVICES** 

### cfparker@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
305	Geophysical Services	Ground Penetrating Radar (GPR), Seismic Refraction/Reflection, Resistivity, Electromagnetic (EM), etc.	Geophysicist		5		At least one (1) key person that the geophysicist. For each key for two (2) different description last three (3) years.

### Additional Requirements

at is a permanent employee of the firm is required for each key person, submit two (2) examples of DOT or person and completed within the last three (3) lous waste sites, landfills, underground storage tanks, lvent remediation in North Carolina is required.

### Additional Requirements

at is a permanent employee of the firm is required for y person, submit an example of DOT or similar work ons of work completed by the key person within the

# Chris Chen (919) 707-6876

### **GEOTECHNICAL SPECIALTY SERVICES**

### cchen@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
298	Ground Improvement Design	Dynamic Compaction, Grouting, Stone Columns, Wick Drains, etc.	Geotechnical Engineer	P.E.	10	P.E.	At least one (1) key person tha the geotechnical engineer. Fo similar work for two (2) differe completed within the last thre
299	Cantilever Retaining Wall Design	Sheet Pile, Cantilever Concrete, Pile Panel and Soldier Pile Retaining Walls.	Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person that the geotechnical engineer. For similar work for two (2) different the AASHTO LRFD Bridge Design completed within the last three
300	Anchored Retaining Wall Design	Anchored (Tieback) Retaining Walls and Shoring, Soil Nail Retaining Walls and Temporary Soil Nail Walls	Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person that the geotechnical engineer. Fo or anchored retaining wall exa <i>Bridge Design Specifications</i> ar nail wall example that is in acc <i>Circular No. 7 "Soil Nail Walls"</i> the key person and completed
301	Dam Investigation, Evaluation & Design		Geotechnical Engineer	P.E.	10	P.E.	At least one (1) key person tha each role. For each key persor sealed by the key person and c
			Project Geologist or Geological Engineer	L.G. or P.E.	5		contractor/ subcontractor mus Geotechnical Investigations, an overgrown areas, obtain N and mud borings.

### Additional Requirements

at is a permanent employee of the firm is required for or each key person, submit an example of DOT or ent descriptions of work sealed by the key person and ee (3) years.

at is a permanent employee of the firm is required for or each key person, submit an example of DOT or ent descriptions of work that are in accordance with *gn Specifications,* were sealed by the key person and ee (3) years.

at is a permanent employee of the firm is required for or each key person, submit one (1) anchored shoring ample that is in accordance with the AASHTO LRFD nd one (1) soil nail retaining wall or temporary soil cordance with the FHWA Geotechnical Engineering ". Submit examples of DOT or similar work sealed by d within the last three (3) years.

at is a permanent employee of the firm is required for on, submit two (2) examples of DOT or similar work completed within the last three (3) years. Drilling ust be prequalified for work code 3050: Drilling for and equipment must be able to access wooded and of H size cores and drill 120ft SPT borings and 200ft

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
302	Landslide Investigation, Evaluation & Mitigation Design		Geotechnical Engineer	P.E.	10	P.E.	At least one (1) key person that each role. For each key person sealed by the key person and o
			Project Geologist or Geological Engineer	L.G. or P.E.	5		Geotechnical Investigations, a overgrown areas, obtain N and mud borings.
303	Rock Slope Investigation, Evaluation & Design	Rock Slope Design and Stabilization (Rock Bolts, Rock Slope Drapes, Rockfall	Geotechnical Engineer	P.E.	10	P.E.	At least one (1) key person that each role. For each key person
		Barners, etc.)	Project Geologist or Geological Engineer	L.G. or P.E.	10		1:1 (H:V). Submit examples c completed within the last thr of rock coring within the last camera is required. Drilling c work code 3050: Drilling for ( able to access wooded and o 120ft SPT borings and 200ft r
304	Rock Blasting Evaluation & Design	Production, Controlled, Trim, Trench and Secondary Blasting and Pre-Splitting	Geotechnical Engineer	P.E.	10	P.E.	At least one (1) key person that the geotechnical engineer. Fo and one (1) pre-splitting exam by the key person and comple

#### Additional Requirements

at is a permanent employee of the firm is required for on, submit two (2) examples of DOT or similar work completed within the last three (3) years. Drilling ust be prequalified for work code 3050: Drilling for and equipment must be able to access wooded and of H size cores and drill 120ft SPT borings and 200ft

at is a permanent employee of the firm is required for on, submit one (1) rock slope design example and one ample of rock slopes taller than 50ft and steeper than of DOT or similar work sealed by the key person and ee (3) years. Successful completion of at least 1,000ft three (3) years and experience with a down hole ontractor/subcontractor must be prequalified for Geotechnical Investigations, and equipment must be vergrown areas, obtain N and H size cores and drill hud borings.

at is a permanent employee of the firm is required for or each key person, submit one (1) blasting example nple. Submit examples of DOT or similar work sealed eted within the last three (3) years.

## Chris Chen (919) 707-6876

**GEOTECHNICAL SPECIALTY SERVICES** 

cchen@ncdot.gov

364	MSE Segmental Wall Design	MSE Retaining Walls with Segmental Retaining Wall (SRW) Units	Geotechnical Engineer	P.E.	5	P.E.	At least one (1) key person tha the geotechnical engineer. Fo or similar work that are in acco <i>Specifications</i> and analyzed wir sealed by the key person and o
536	Hydraulic Conductivity Investigation	Infiltration Basins	Soil Scientist, Project Geologist or Geotechnical Engineer	L.S.S., L.G. or P.E.	3	L.S.S., L.G. or P.E.	At least one (1) key person that the soil scientist, geologist or e examples of hydraulic conduct of North Carolina sealed by the years. Experience with identif determining hydraulic conduct constant head permeameter is

at is a permanent employee of the firm is required for or each key person, submit two (2) examples of DOT ordance with the AASHTO LRFD Bridge Design ith the computer program, MSEW. Submit examples completed within the last three (3) years.

at is a permanent employee of the firm is required for engineer. For each key person, submit two (2) tivity investigations for infiltration basins in the state e key person and completed within the last three (3) fying soil horizons and seasonal high water table and tivity with in-situ borehole test methods using a s required.

## **CONSTRUCTION SERVICES**

### CONSTRUCTION SERVICES

mbiedell@ncdot.gov

Mickey Biedell

(919) 707-4803

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	P
195	Roadway Construction Engineering & Inspection		Construction Manager	P.E.			Construction Manager must sl projects with the last five (5) y
233	Structures Construction Engineering & Inspection		Construction Manager	P.E.			Construction Manager must sl projects with the last five (5) y
125	Intelligent Transportation System (ITS) Inspection		Construction Manager	P.E.			Construction Manager must sl projects with the last five (5) y
289	Signal Systems Inspection		Construction Manager	P.E.			Construction Manager must sl projects with the last five (5) y
42	Construction Contract Claims Analysis		Construction Manager				Construction Manager must sl projects with the last five (5) y
47	Critical Path Method (CPM) Scheduling		Construction Manager				Construction Manager must sl projects with the last five (5) y

### Additional Requirements

show sufficient experience overseeing these type years.

how sufficient experience overseeing these type years.

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

### **ITS & SIGNALS**

## Dominic Ciaramitaro (919)

(919) 814-5102

### djciaramitaro@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Δ
207	Signal Design	Local intersection signal design.	Signal Design Engineer	P.E.	2	P.E.	Key personnel should be empl experience with a significant n managed projects involving tra design experience. Examples o resume does not show evident submittals only. If the work w Mobility and Safety Division, o personnel have been previous required.
209	Signal System Communications Design	Developing communication plans (fiber, radio, Ethernet, etc.) and performing surveys of aerial utilities and making recommendations for adjustments based on the NESC.	Signal System Communications Design Engineer	P.E.	2	P.E.	SIGNAL SYSTEMS COMMUNIC, loop signal systems): Key perso of plan designing experience u communications and other typ modems, etc.) Personnel that will not qualify without sufficie Personnel's work will only be r sufficient communications des work was performed for or sul Division, only a reference to th previously prequalified in this requested by the reviewing Ur
			Signal System Communications Design Engineer		2		UTILITY MAKE-READY PLANS: I (2) years of experience review able to identify violations with the National Electrical Safety C recommendations for adjustm violations will occur once our r use pole. Personnel that have

#### Additional Requirements

loyees with at least two (2) years of hands-on number of signal plans. Personnel that have only raffic signals will not qualify without sufficient signal of Key Personnel's work will only be requested if their nee of sufficient signal design experience; electronic was performed for or submitted to the Transportation only a reference to the work is necessary. If key sly prequalified in this discipline, no examples are

CATIONS DESIGN (communication networks for closed sonnel should be employees with at least two (2) years using fiber optic communications, radio pes of communication schemes (Ethernet, wireless t have only managed projects involving traffic signals ent signal design experience. Examples of Key requested if their resume does not show evidence of sign experience; electronic submittals only. If the ubmitted to the Transportation Mobility and Safety he work is necessary. If key personnel have been discipline, no examples are required unless nit.

Key personnel should be employees with at least two ving utility attachments on joint-use pole lines and be h regards to the rules and regulations associated with Code. Additionally, these individuals will make nents when violations are identified and ensure no new communications media is installed on the jointe only managed projects involving traffic signals will

							not qualify without sufficient Personnel's work will only be sufficient Utility Make Ready work was performed for or su Division, only a reference to t previously prequalified in this requested by the reviewing U
210	Signal System Timing	Developing signal system coordination timing plans and field implementation/fine tuning of the signal system coordination timing plans.	Signal System Timing Engineer	P.E.		P.E.	For stand-alone signal system system timing plan developm employees with at least two ( development and field implet ability/experience to develop on having the experience and system timing plans. Personn system timing or only have ex traffic and/or transportation and/or evaluate signal system system timing field implement Personnel's work will only be sufficient signal system timing experience; electronic submit to the Transportation Mobilit necessary. If key personnel h examples are required.
208	Signal Equipment Design	Local intersection signal equipment design.	Project Engineer	P.E.	2	P.E.	Must have at least one (1) key with at least two (2) years of preferably using 2070 control completed within the last five submittals only. If the work w Mobility and Safety Division, previously prequalified in this requested by the reviewing U electrical design plans showin equipment.

t signal design experience. Examples of Key e requested if their resume does not show evidence of p Design experience; electronic submittals only. If the ubmitted to the Transportation Mobility and Safety the work is necessary. If key personnel have been s discipline, no examples are required unless Jnit.

ns separate from centralized metropolitan signal ent/implementation. Key personnel should be (2) years of signal system coordination timing plan mentation experience. Emphasis on the signal system timing plans, with additional emphasis expertise to field implement and fine tune the signal nel that have only managed projects involving signal xperience using SYNCHRO, SimTraffic, HCM, and other related software to develop, analyze, optimize, model, m timing plans will not qualify without sufficient signal ntation/fine tuning experience. Examples of Key requested if their resume does not show evidence of ng plan development and field implementation ittals only. If the work was performed for or submitted ty and Safety Division, only a reference to the work is ave been previously prequalified in this discipline, no

ey person per role. Key personnel should be employees hands-on signal equipment design experience, ollers. Must submit examples of DOT or similar work re (5) years and sealed by each engineer; electronic was performed for or submitted to the Transportation only a reference to the work is necessary. If is discipline, no examples are required unless Unit. Examples should include: copies of sealed ng configuration for the controller, cabinet and other

123	Intelligent Transportation	Develop plans, functional specifications,	ITS Design	P.E.	2	P.E.	Key personnel should be emp
	System Design	and estimates for intelligent	Engineer				design experience with a sign
		transportation systems. These systems					managed projects involving IT
		may include: detailed communications					experience. Examples of key
		infrastructure (including utility make-					not show evidence of sufficier
		ready engineering), computerized signal					If the work was performed for
		systems, closed circuit television					Safety Division, only a referen
		cameras, dynamic message signs,					been previously pregualified i
		incident detection, roadway weather					requested by the reviewing U
		information systems, automated weigh					
		stations low visibility detection					
		reversible lange, and software interface					
		reversible lanes, and software interface					
		requirements.					
				1			

bloyees with at least two (2) years of hands-on ITS inficant number of ITS plans. Personnel that have only TS will not qualify without sufficient ITS design personnel will only be request if their resume does ent signal design experience; electronic submittals only. or or submitted to the Transportation Mobility and nce to the work is necessary. If key personnel have in this discipline, no examples are required unless Unit.

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

### **SIGNING & DELINEATIONS**

• Signing and Delineation prequalifications are by individuals

## Dominic Ciaramitaro (919) 814-5102

djciaramitaro@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Ad
97	Guide Sign Design – Conventional Roads	Conventional road signing plan design.	Project Engineer	P.E.		P.E.	Must have at least one (1) key p design software for permanent similar work completed within electronic submittals only. If the Transportation Mobility and Sa necessary. If previously prequa- unless requested by the review descriptions including names a owners, resumes, references, co If a firm has previously complete for prequalification.
98	Guide Sign Design – Expressways and Freeways	Expressway and Freeway sign plan design.	Project Engineer	P.E.		P.E.	Must have at least one (1) key p design software for permanent (ground and overhead mounter protective devices. Must subm within the last five (5) years and only. If the work was performed and Safety Division, only a refe prequalified in this discipline, n reviewing Unit. Examples shou names and current contact info certificates, experience descrip completed work for the NCDOT

#### Additional Requirements

person per role. Experience using "Guide Sign" at or work zone use. Must submit examples of DOT or a the last five (5) years and sealed by each engineer; the work was performed for or submitted to the afety Division, only a reference to the work is halified in this discipline, no examples are required wing Unit. Examples should include: project lists and and current contact information of clients and certificates, experience descriptions and details, etc. eted work for the NCDOT, this will also be considered

person per role. Experience using "Guide Sign" at or work zone use. Experience in support design ed) and know criteria for barrier guardrail or other nit examples of DOT or similar work completed and sealed by each engineer; electronic submittals ed for or submitted to the Transportation Mobility erence to the work is necessary. If previously no examples are required unless requested by the uld include: project lists and descriptions including formation of clients and owners, resumes, references, ptions and details, etc. If a firm has previously of, this will also be considered for prequalification.

155	Pavement Markings Plans	Pavement markings, bicycle and	Project Engineer	P.E.	P.E.	Must have at least one (1) key
		pedestrian plans.				include pedestrians accounted
						examples of DOT or similar wo
						by each engineer; electronic s
						submitted to the Transportati
						the work is necessary. If prev
						required unless requested by
						lists and descriptions including
						and owners, resumes, referen
						etc. If a firm has previously co
						considered for prequalificatio

by person per role. Provide delineation plans that ad for with curb ramp and crosswalks. Must submit york completed within the last five (5) years and sealed submittals only. If the work was performed for or tion Mobility and Safety Division, only a reference to viously prequalified in this discipline, no examples are y the reviewing Unit. Examples should include: project ang names and current contact information of clients nces, certificates, experience descriptions and details, completed work for the NCDOT, this will also be on.

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

### **CONGESTION MANAGEMENT**

• Congestion Management prequalifications are by individuals

## Dominic Ciaramitaro (919) 814-5102

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Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
252	Traffic Impact Studies	Preparation of Traffic Impact Analysis/Study (TIA/TIS) for NCDOT review, primarily for a private developer and municipal projects seeking access to the State Highway System.	Project Engineer	P.E.			Must have at least one (1) key Department policies and guide Driveways Access to North Caro Management Capacity Analysis Prequalification in this disciplin for NCDOT review, as the Depa by a private entity. Prequalific question has demonstrated ad such simplified the Departmen The primary purpose of this dis submitted report by the Conge of DOT or similar work complet engineer; electronic submittals to the Transportation Mobility necessary. If previously prequa unless requested by the review descriptions including names a owners, resumes, references, o If a firm has previously complet for prequalification.

### Additional Requirements

person per role. Must show adherence to all elines, including the *Policy on Street and Driveways*, *rolina Highways* and the *NCDOT Congestion is Guidelines*.

ne is not required for a firm/engineer to submit a TIA artment cannot dictate which engineer can be hired cation in this discipline indicates that the engineer in dherence to all relevant policies and practices, and as nt's review and evaluation of the requested access. scipline is to indicate the likely review time of the estion Management Section. Must submit examples eted within the last five (5) years and sealed by each s only. If the work was performed for or submitted v and Safety Division, only a reference to the work is ualified in this discipline, no examples are required wing Unit. Examples should include: project lists and and current contact information of clients and certificates, experience descriptions and details, etc. eted work for the NCDOT, this will also be considered

27	Capacity Analysis – Freeways and Interchanges	Traffic analysis of uninterrupted flow operation. This may include freeway merge, diverge and weaving segments, mainline operation and design and review of interchange concepts.	Project Engineer	P.E.	Must have at least one (1) key Highway Capacity Manual (20 Uninterrupted flow. This anal similar work completed within electronic submittals only. If Transportation Mobility and S necessary. If previously prequ unless requested by the revie descriptions including names owners, resumes, references, If a firm has previously completed for prequalification.
26	Capacity Analysis – Intersections and Corridors	Traffic analysis of interrupted flow operation. This may include signalized and unsignalized intersection analysis and corridor operation.	Project Engineer	P.E.	Must have at least one (1) key <i>Highway Capacity Manual</i> (20 Interrupted flow. This analysi procedures may be used. Mu within the last five (5) years a only. If the work was perform and Safety Division, only a ref prequalified in this discipline, reviewing Unit. Examples sho names and current contact in certificates, experience descri completed work for the NCDO
30	Capacity Analysis – Roundabouts	Traffic analysis of roundabout intersections. This includes capacity analysis of roundabout operations using specialized software (as listed in the Congestion Management Traffic Analysis Guidelines).	Project Engineer	P.E.	Must have at least one (1) key Highway Capacity Manual (20 Interrupted flow. This analysi because of the specialized nat submit examples of DOT or sit and sealed by each engineer; for or submitted to the Transy reference to the work is nece examples are required unless include: project lists and desc information of clients and ow descriptions and details, etc. NCDOT, this will also be consi

y person per role. Analysis methodology should follow 010) procedures, primarily found in Volume 2, lysis is macroscopic. Must submit examples of DOT or n the last five (5) years and sealed by each engineer; the work was performed for or submitted to the Safety Division, only a reference to the work is ualified in this discipline, no examples are required ewing Unit. Examples should include: project lists and and current contact information of clients and , certificates, experience descriptions and details, etc. leted work for the NCDOT, this will also be considered

y person per role. Analysis methodology should follow 010) procedures, primarily found in Volume 3, sis is macroscopic, although simpler microscopic ust submit examples of DOT or similar work completed and sealed by each engineer; electronic submittals ned for or submitted to the Transportation Mobility ference to the work is necessary. If previously , no examples are required unless requested by the puld include: project lists and descriptions including iformation of clients and owners, resumes, references, iptions and details, etc. If a firm has previously OT, this will also be considered for prequalification.

y person per role. Analysis methodology should follow 010) procedures, primarily found in Volume 3, is is separate from the general intersection category ture of roundabout design and operation. Must milar work completed within the last five (5) years electronic submittals only. If the work was performed portation Mobility and Safety Division, only a essary. If previously prequalified in this discipline, no a requested by the reviewing Unit. Examples should criptions including names and current contact where, resumes, references, certificates, experience If a firm has previously completed work for the idered for prequalification.

256	Traffic Simulations Using Advanced Modeling Software	Traffic simulations of complex networks. This includes proficiency with advanced simulation modeling software to analyze more complicated road networks. This work may be required for the completion of documents involving freeway interchanges and alternative intersection design that cannot be reasonable completed by macroscopic analysis software.	Project Engineer	P.E.		Must have at least one (1) key discipline include, but not limi TransModeler. Because of its Synchro/SimTraffic software p discipline. Must submit exam five (5) years and sealed by ea was performed for or submitte only a reference to the work is discipline, no examples are ref Examples should include: proj contact information of clients experience descriptions and d for the NCDOT, this will also b
127	Interchange Modification/Justification Reports	Interchange Modification or Justification Reports (IMR/IJR). This includes all steps in preparation of IMR/IJR for submittal to FHWA. Steps include advanced traffic simulations, freeway and interchange analysis and providing detailed information for FHWA IMR/IJR process steps.	Project Engineer	P.E.		Must have at least one (1) key Analysis – Freeways and Intere Modeling Software is required examples of DOT or similar wo by each engineer; electronic s submitted to the Transportation the work is necessary. If previously required unless requested by lists and descriptions including and owners, resumes, referen etc. If a firm has previously co considered for prequalification

y person per role. Software packages used for this nited to, TSIS-CORSIM, VISSIM, Paramics and s limitations for use for uninterrupted flow, the package is not included for qualification in this nples of DOT or similar work completed within the last ach engineer; electronic submittals only. If the work ted to the Transportation Mobility and Safety Division, is necessary. If previously prequalified in this equired unless requested by the reviewing Unit. ject lists and descriptions including names and current s and owners, resumes, references, certificates, details, etc. If a firm has previously completed work be considered for prequalification.

y person per role. Prequalification for both Category rchanges and Traffic Simulations Using Advanced d to become approved in this discipline. Must submit ork completed within the last five (5) years and sealed submittals only. If the work was performed for or ion Mobility and Safety Division, only a reference to viously prequalified in this discipline, no examples are the reviewing Unit. Examples should include: project ag names and current contact information of clients nces, certificates, experience descriptions and details, ompleted work for the NCDOT, this will also be on.

205	School Traffic Operations Studies	Traffic Analysis of on-campus and directly affected intersections regarding school transportation operations (pedestrian, bicycle, parent and staff automobile, and buses). This work may be required for completion of documents involving school student loading operations (parent vehicle and buses), parent traffic needs (queuing and parking) and pedestrian/bicycle interaction.	Project Engineer	P.E.		Must have at least one (1) key proficiency with advanced sim transportation. Modeling sho simulation of the on-campus t and creating multiple student and/or calculations provided & preliminary design detail work transportation operations and Analysis – Intersections and Co prequalified in this discipline, of DOT or similar work complet engineer; electronic submittal to the Transportation Mobility, necessary. Examples should in and current contact informatic certificates, experience descri completed work for the NCDC

y person per role. Must show knowledge and nulation modeling software to analyze school ould include identifying the student loading zone and traffic pattern (both entering and exiting the campus) loading cycles. Analysis should include actual data by the MSTA School Traffic Calculator. Some k/knowledge may be included. In addition to school alysis will encompass work included in Capacity Corridors and Traffic Impact Studies. If previously recent examples are required. Must submit examples eted within the last five (5) years and sealed by each Is only. If the work was performed for or submitted y and Safety Division, only a reference to the work is include: project lists and descriptions including names ion of clients and owners, resumes, references, iptions and details, etc. If a firm has previously OT, this will also be considered for prequalification.

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

### **TRAFFIC MANAGEMENT – WORKZONE TRAFFIC CONTROL**

djciaramitaro@ncdot.gov

**Dominic Ciaramitaro** 

(919) 814-5102

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registratio n Required	Minimum Years of Experience	Firm Registration Required	ļ
247	Traffic Management Plans	Temporary Traffic Control Plan, Transportation Operations Plan and Public Information Plan	Project Engineer	P.E.			Must have at least one (1) key dated samples of Traffic Mana by a current employee of the completed within the last five submittals only. If the work w Mobility and Safety Division, c previously prequalified in this requested by the reviewing Un descriptions including names owners, resumes, references, If a firm has previously complet for prequalification.

### Additional Requirements

y person per role. Must submit two (2) sealed and agement Plans prepared within the last five (5) years firm. Must submit examples of DOT or similar work e (5) years and sealed by each engineer; electronic was performed for or submitted to the Transportation only a reference to the work is necessary. If s discipline, no examples are required unless Unit. Examples should include: project lists and and current contact information of clients and , certificates, experience descriptions and details, etc. leted work for the NCDOT, this will also be considered

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

## Dominic Ciaramitaro (9

(919) 814-5102

### TRAFFIC SAFETY

### djciaramitaro@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	ļ
309	Traffic Data Collection	The collection and/or processing of traffic data in various increments and durations including turning movement (may include classification), volume/speed/class, spot speed (lidar required), delay, gap, saturation flow rate, travel time, manual classification, pedestrian corridor crossing, compliance, volume/class (non- motorists), occupancy data, origin/destination, video, and other traffic-related data as needed. Classification data may be in the NCDOT four class scheme (based on the FHWA 13-class scheme) or be in groups based on AASHTO design vehicles. Must be familiar with PETRAPro, PC-Warrants, the NCDOT Axle Based Classification Tree, NCDOT Guidelines for Classification by Length, Federal Railroad Administration (FRA) land use categories, and the FHWA Traffic Monitoring Guide (TMG), and National Weather Service (NWS) weather data.	Project Manager		5		Key personnel shall have a mit traffic data collection and/or t copies only) and references m experience shown on Key Pers Department for similar work b

### Additional Requirements

inimum of five (5) years of experience in managing traffic data processing. Work examples (electronic nay be requested and reviewed depending on past rsonnel's resume. Past experience with the by the vendor may also be considered.

458	Crash Analysis	Perform Location Specific Crash Analysis using TEAAS and provide crash data support functions including, but not limited to, updates and revisions to the Strategic Highway Safety Plan (SHSP), crash reduction factors (CRFs), safety performance functions (SPFs), crash rates, and crash costs.	Project Engineer			P.E.	Key personnel must have experience using the NCDOT Traffic Engineering A Analysis System (TEAAS). Must be able to demonstrate knowledge of crash referencing and mileposting procedures used by the NCDOT Traffic Safety individual should be able to provide documentation of attending a TEAAS T course, if requested. The individual seeking prequalification may be reques submit examples of work, including all documentation, completed within t five (5) years; or may need to successfully pass prequalification testing.
459	Traffic Engineering and Transportation Safety Investigations, Research, Recommendations and Studies	Perform traffic engineering and transportation safety investigations, research and provide recommendations.	Project Engineer Must have at least one key person per role.	P.E.	2	P.E.	Must have at least one (1) key person per role. Person must be capable of providing full range of traffic engineering, traffic operations (including traf control devices), traffic safety and regulatory investigations, research and recommendations when it comes to reviewing roadway, traffic control, tra signal, signing, pavement marking plans, etc. Must have experience and a demonstrated knowledge in design reviews and must be capable of identif project deficiencies and justified traffic safety measures that will improve and operational performance. Applied traffic operational, safety and road geometric knowledge and regional familiarity / knowledge are required. F with MUTCD, AASHTO, TEEPL and North Carolina Transportation laws and regulations are required. The individual seeking prequalification must submit examples of work, incl documentation completed within the last five (5) years; electronic submitt (preferably North Carolina based work). Examples include: traffic engineer traffic safety investigation & analysis experience and must be able to use e driven data to justify traffic engineering and traffic safety recommendation Project / plan review letters and correspondence dealing with safety meas TIP type reviews on projects. If the work was performed for, or submitted Transportation Mobility and Safety Division – Traffic Safety Unit, only a ref the work is necessary. If previously prequalified in this discipline, no exam required unless requested by the reviewing Unit.

erience using the NCDOT Traffic Engineering Accident st be able to demonstrate knowledge of crash location procedures used by the NCDOT Traffic Safety Unit. The rovide documentation of attending a TEAAS Training vidual seeking prequalification may be requested to luding all documentation, completed within the last successfully pass prequalification testing.

y person per role. Person must be capable of engineering, traffic operations (including traffic and regulatory investigations, research and mes to reviewing roadway, traffic control, traffic rking plans, etc. Must have experience and a design reviews and must be capable of identifying ied traffic safety measures that will improve safety . Applied traffic operational, safety and road gional familiarity / knowledge are required. Familiarity

alification must submit examples of work, including all ithin the last five (5) years; electronic submittals only sed work). Examples include: traffic engineering, and analysis experience and must be able to use evidence ngineering and traffic safety recommendations. and correspondence dealing with safety measures for If the work was performed for, or submitted to, the Safety Division – Traffic Safety Unit, only a reference to viously prequalified in this discipline, no examples are the reviewing Unit.

496	Traffic Safety and Mobility Statutory Support	The interpretation and application of statutory, rule, and ordinance requirements in traffic safety and mobility policies and practices. Development of recommendations for changes to statutes, rules, and ordinances. Development, implementation, and/or approval of ordinances. Management of ordinance processes and distribution. Updating and maintaining formal procedures and guidelines related to statutory, rule, and ordinance requirements to include, but not limited to, speed limits, truck routes and restrictions, route changes, and self-propelled farm equipment on fully controlled access facilities.	Project Manager	2	Key personnel shall have a mi data related to statutes, rules legal aspects related to traffic copies only) and references m experience shown on Key Per Department for similar work
497	Traffic Safety Data Support	Support functions for traffic safety data systems and the Highway Safety Improvement Program (HSIP) and other safety and mobility planning and evaluation programs and initiatives. Work may include mapping, reports, shape files, crash corrections and other data entry functions, mileposting, web content, and other crash-related and mobility-related documentation and publications.	Project Manager	2	Key personnel shall have a mi and displaying transportation and references may be reque shown on Key Personnel's res work by the vendor may also discipline 458 ("Crash Analysi

ninimum of two (2) years of experience in managing es (administrative code), ordinances or other similar ic safety and traffic mobility. Work examples (electronic may be requested and reviewed depending on past ersonnel's resume. Past experience with the by the vendor may also be considered.

ninimum of two (2) years of experience in working with n-related data. Work examples (electronic copies only) ested and reviewed depending on past experience sume. Past experience with the Department for similar be considered. Firm must be prequalified for sis") prior to being prequalified for this discipline.

## **TRANSPORTATION MOBILITY & SAFETY DIVISION**

### TRAFFIC SYSTEM OPERATIONS

Dominic Ciaramitaro (9

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Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
462	Traffic Operations	Scoping, developing, and operating traffic operations programs and services.	Traffic Operations Experts				<ul> <li>Key employees must:</li> <li>Display national experience</li> <li>Display experience with Wriand Managing Automated</li> <li>Have 2 years of experience (TMC)</li> <li>Display experience with deversion of the experience with deversion of the experience with scopies.</li> <li>Show experience with scopies.</li> <li>Show experience with CMC</li> <li>Show experience with scopies.</li> <li>providing TMC Media of the experience with the experience with scopies.</li> <li>providing TMC Law Environmenting Response.</li> <li>Show experience with and/of the experience with the experience with and/of the experience with and/of the experience with and/of the experience of the experience of the experience.</li> <li>Show experience with and/of the experience of the experience with and/of the experience of the experience.</li> <li>Travel Demand Manage Ramp Meter Operation Variable Speed Limit Of Traffic Analysis related</li> <li>Examples of Key Personnel's with show evidence of sufficient transional of the work was performed and Safety Division, only a reference.</li> </ul>
			1	1	1	1	

### Additional Requirements

e/Exposure/Knowledge of TO Performance Measures riting Proposals for, Designing, Implementing, Testing, I Transportations Management Systems (ATMS) e Operating Transportation Management Centers

velopment and implementation of TMC Operator

velopment and implementation of TMC Operator

Performance Reporting including examples ing and developing TMC Implementation Plans :

- Coordination
- nforcement Coordination
- e Operations
- ations Show experience of developing and
- se Plans
- or knowledge of:
- agement (ATM)
- gement (TDM)
- ns
- Operations
- d to TO

vork will only be requested if their resume does not affic operations experience; electronic submittals red for or submitted to the Transportation Mobility erence to the work is necessary.

463	Incident Management	Scoping, developing, and operating incident management related programs and services.	Incident Management Experts		<ul> <li>— Display national experience</li> <li>— 2 year of experience with:         <ul> <li>Incident Command Sy</li> <li>providing Service Path</li> <li>Display national experience</li> <li>Control</li> </ul> </li> <li>— Show experience with and</li> <li>Service Patrol Training</li> <li>TIM Certification Prog</li> <li>Developing and imple</li> <li>Procedures/Guideline</li> <li>Facilitating TIM Team</li> <li>Scoping, developing ad</li> <li>Examples of Key Personnel's vishow evidence of sufficient training</li> <li>and Safety Division, only a ref</li> </ul>
464	ITS Operations	Scoping, developing, and operating ITS Operations related programs and services.	ITS Operations Experts		<ul> <li>Show experience with scor Systems (ITS) Device Maint</li> <li>2 years of experience with:</li> <li>TMC Configuration M</li> <li>Systems Engineering</li> <li>Systems Managemen</li> <li>Examples of Key Personnel's v show evidence of sufficient tr only. If the work was perform and Safety Division, only a ref</li> </ul>
465	Traveler Information	Scoping, developing, and operating traveler information related programs and services.			<ul> <li>5 years of experience:</li> <li>scoping, developing a</li> <li>operating a 511 Syste</li> <li>Show experience with prov</li> <li>Examples of Key Personnel's v</li> <li>show evidence of sufficient tr</li> <li>only. If the work was perform</li> <li>and Safety Division, only a ref</li> </ul>

### e/Exposure/Knowledge of TIM Performance Measures

ystems (ICS) rol Operations

rience/exposure/knowledge of Incident Scene Traffic

/or knowledge of:

- g Programs
- grams
- ementing TIM Standard Operating
- es
- n Meetings
- and implementing Heavy Towing Programs

work will only be requested if their resume does not raffic operations experience; electronic submittals ned for or submitted to the Transportation Mobility ference to the work is necessary.

ping and developing Intelligent Transportation tenance Programs

lanagement

nt

work will only be requested if their resume does not raffic operations experience; electronic submittals ned for or submitted to the Transportation Mobility ference to the work is necessary.

and implementing 511 Systems em viding quality Voice Recognition Programs

work will only be requested if their resume does not raffic operations experience; electronic submittals ned for or submitted to the Transportation Mobility ference to the work is necessary.

495	Traffic Operations and Incident Management			Please contact Mr. Cliff Braam (919) 825-2619 for more infor

n at (919) 825-2616 or Ms. Meredith McDiarmid at rmation on the scope of work and requirements for

## **PROJECT DEVELOPMENT**

## James Tortorella (919) 707-6047

### **PROJECT PLANNING FOR HIGHWAY PROJECTS**

### jtortorella@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
32	Categorical Exclusions	NEPA and NCEPA analysis and regulatory compliance.	NEPA/NCEPA Practitioner	PE or AICP preferred	3	P.E.	NEPA/NCEPA experience must regulations such as Section 404 community issues such as EJ ar
63	Environmental Assessment/Finding of No Significant Impacts	NEPA and NCEPA analysis and regulatory compliance.	NEPA/NCEPA Practitioner	PE or AICP preferred	5	P.E.	NEPA/NCEPA experience must regulations such as Section 404 community issues such as EJ ar
66	Environmental Impact Statement/Record of Decision	NEPA and NCEPA analysis and regulatory compliance.	NEPA/NCEPA Practitioner	PE or AICP preferred	7	P.E.	NEPA/NCEPA experience must regulations such as Section 404 community issues such as EJ ar

### Additional Requirements

t have required consideration of environmental 4, Section 4(f), Section 6(f), Section 106 and nd underserved populations.

t have required consideration of environmental 4, Section 4(f), Section 6(f), Section 106 and nd underserved populations.

t have required consideration of environmental 4, Section 4(f), Section 6(f), Section 106 and nd underserved populations.

Revised as of 2/14/17

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### **ENVIRONMENTAL ANALYSIS**

### HUMAN ENVIRONMENT SECTION (HES)

## Randy Griffin (919) 707-6121

### rgriffin@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
5	Project-Level Air Quality Analysis						Previous experience in project classroom training in USEPA M applicable training certificates within past 5 years (including o
14	Archaeological Resource Surveys	Archaeology	Archaeologist				Key project personnel will mee listed in the Secretary of the Ir 22716). Staff must have exper Southeastern United States. submitted for review.
36	Community Impact Assessment	Community Impact Assessment (CIA) is an iterative process to evaluate the direct effects of a transportation action on a community and its quality of life. The assessment process is an integral part of project planning and development that shapes the outcome of a project by raising awareness and understanding of both positive and negative effects of proposed actions on the human (social and economic) environment. Its information is used to guide the project and provide documentation of the current and anticipated social environment of a	Community Planner (CP) or equivalent NEPA Practitioner (NP)				Community Planner/NEPA Pra Without direct experience the economic impact analysis, mu planning, with training in or a demographic analysis. Practitioners without direct ex Masters in planning or community planning e Bachelors in planning e

### Additional Requirements

t-level analyses; Analyst must have received formal MOVES modeling software; Resume (2 pgs. or less), all and a complete list of air quality analyses performed client) must be submitted for review

eet the qualifications for professional archaeologists as nterior's Professional Qualification Standards (48 FR ience conducting archaeological investigations in the Examples of work and staff resumes must be

actitioner should have prior CIA experience.

practitioner must demonstrate experience in socio-Iti-modal transportation planning and land use demonstrated understanding of NEPA and

sperience must also have appropriate education:

r an allied profession and a year of applicable experience,

or an allied profession and three years of applicable experience, or

		geographic area with and without the action. CIA uses data analysis as well as broad community interaction to enable informed transportation decision- making in compliance with <u>23 U.S.C.</u> <u>109(h)</u> . The assessment should include all items of importance to people, such as mobility, safety, employment effects, relocation, isolation, and other community issues. CIA also incorporates federal laws and mandates such as Environmental Justice, Limited English Proficiency and the Farmland Protection Policy Act when applicable.			Other degree plus sev experience
106	Historic Architectural Surveys of Standing Structures (Buildings and Bridges)	Standing Structure Surveys			Key project personnel will me historians as listed in the Secr Standards (48 FR 22716). Staf architectural investigations in and staff resumes must be su

even years of applicable community planning

eet the qualifications for professional architectural cretary of the Interior's Professional Qualification ff must have experience conducting historic n the Southeastern United States. Examples of work ubmitted for review.
116	Indirect and Cumulative Effects Assessment	The purpose of an ICE report is to inform the decision-making process regarding which alternatives to carry forward by assessing the potential indirect and cumulative effects based on potential change in land use as a result of the project. The ICE incorporates a matrix tool that considers factors known to influence land use, including the scope of the project, travel time savings, population growth, employment growth, land available for development, water and sewer availability, market for development, development regulations, and the presence of notable environmental features. ICE findings indicate whether further analysis in the form of a Land Use Scenario Assessment (LUSA) is warranted. A LUSA also informs the decision-making process regarding selection of the Recommended Alternative by assessing development potential in identified Probable Development Areas. The Natural Environment Section uses LUSA findings to determine whether ICI water quality modeling is needed for permitting.	Community Planner (CP) or equivalent NEPA Practitioner (NP)		Community Planner/NEPA Pra Without direct experience the economic growth projection, training in or a demonstrated Practitioners without direct ex • Masters in planning of community planning of community planning of community planning of community planning of experience
171	Public Involvement				Submit an organizational char responsible for public involve submittal a list of other discip Must submit two (2) example submittal an understanding o involvement, LEP, Environme concert as part of the project

ractitioner should have prior ICE experience.

e practitioner must demonstrate experience in socioland use planning and land development, with understanding of NEPA and demographic analysis.

xperience must also have appropriate education:

or an allied profession and a year of applicable experience,

g or an allied profession and three years of applicable experience, or

ven years of applicable community planning

art showing key staff with SHORT resumes who are ement. Consultants should also include in their plines with NCDOT with which they are prequalified. es of work. Consultants should demonstrate in their of how the community impact assessment, public ental Justice, NEPA and the Clean Water Act work in t development process.

253	Preliminary Traffic Noise Analysis (TNA) for NEPA Documents			An Analyst and a Reviewer ar training in FHWA Traffic Noise classroom training in FHWA T completed the NHI Highway less), all applicable training ce performed/reviewed within p review
308	Limited English Proficiency (LEP)			Submit an organizational cha responsible for Limited Englis submittal a list of other discip Must submit two (2) example should demonstrate in their s impact assessment, public inv Clean Water Act work in conc
439	Quantitative Mobile Source Air Toxics (MSAT) Analysis			An Analyst and a Reviewer ar Project-Level Air Quality Anal training in Quantitative MSAT must provide evidence of hav MSAT analysis modeled with training certificates and a cor performed/reviewed within p review.
440	Quantitative Particulate Matter (PM) Analysis			An Analyst and a Reviewer ar Analyst must meet the requir must have received formal cla USEPA MOVES software; Revi completed review of a Quant Resume (2 pgs or less), all ap Quantitative PM analyses per must be submitted for review

re required; Analyst must have formal classroom se Model (TNM<sup>®</sup>); Reviewer must have either formal Traffic Noise Model (TNM<sup>®</sup>) OR must have successfully Traffic Noise Course (# 142051); Resume (2 pgs or certificates and a complete list of noise analyses past 5 years (including client) must be submitted for

art showing key staff with SHORT resumes who are sh Proficiency. Consultants should also include in their plines with NCDOT with which they are prequalified.

les of Limited English Proficiency work. Consultants submittal an understanding of how the community volvement, LEP, Environmental Justice, NEPA and the cert as part of the project development process.

re required; Analyst must meet the requirements for alysis AND must have received formal classroom T modeling using USEPA MOVES software; Reviewer ving personally completed review of a Quantitative MOVES software; Resume (2 pgs or less), all applicable mplete list of all Quantitative MSAT analyses past 5 years (including client) must be submitted for

re required to be prequalified for this discipline; rements for Project-Level Air Quality Analysis AND lassroom training in Quantitative PM modeling using viewer must provide evidence of having personally titative PM analysis modeled with MOVES software; oplicable training certificates and a complete list of all prformed/reviewed within past 5 years (including client) w.

441	Design Noise Report			An Analyst and a Reviewer ar
				Preliminary Traffic Noise Anal
				of having personally complete
				noise abatement measures ut
				Noise Model (TNM <sup>®</sup> ) and CAE
				requirements for Preliminary
				provide evidence of having pe
				that includes final design of n
				must be prequalified specification
				pgs. or less), all applicable tra
				performed/reviewed within p
				review.
				1

re required; Analyst must meet the requirements for alysis (TNA) for NEPA Documents AND provide evidence and a traffic noise analysis that includes final design of atilizing the most current version of the FHWA Traffic DD software; Reviewer must meet Reviewer a Traffic Noise Analysis (TNA) for NEPA Documents and ersonally completed review of a traffic noise analysis noise abatement measures; Both Analyst and Reviewer ally for Design Noise Reports by NCDOT; Resume (2 aining certificates and a complete list of noise analyses past 5 years (including client) must be submitted for

### ENVIRONMENTAL ANALYSIS

### NATURAL ENVIRONMENT SECTION (NES)

rgriffin	@ncd	ot.gov
•	-	

Randy Griffin (919) 707-6121

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	P
59	Ecological & Biotic Community Studies	Description and Mapping of plant and animal communities throughout NC.	Biologist/ Ecologist		3		Key personnel must have a B.S Management Field.
76	Freshwater Mussel Surveys	Detailed surveys for Protected freshwater mussels throughout NC. Includes snorkel and SCUBA surveys.	Biologist/ Ecologist		3		Appropriate Federal and State
114	ICI Water Quality Assessments	Water Quality modeling associated with community planning Indirect and Cumulative Effects Analysis	Biologist/ Ecologist, Project Manager, Engineer	P.E.	3		Key personnel must have a B.S Management Field with Wate
243	Threatened and Endangered Species Survey & Studies	Conduct surveys and formulate a Biological Conclusion for Federally Protected plant and animal species in NC	Biologist/ Ecologist		3		Key personnel must have a B. Management Field. Appropria with package if applicable
280	Wetland and Stream Delineation	Jurisdictional delineation of wetlands and streams. Includes familiarity with USACE and DWQ forms and worksheets including Rapanos.	Biologist/ Ecologist, Soil Scientist		3		Key personnel must have a B. Management Field, Wetland I training certificates. PWS pre-

#### Additional Requirements

.S. in Biology, Ecology or other Natural Resource

Licenses <u>must</u> be submitted with package.

.S. in Biology, Ecology or other Natural Resource er Quality models, for example: GWLF.

.S. in Biology, Ecology or other Natural Resource iate licenses for animal collection must be submitted

.S. in Biology, Ecology or other Natural Resource Delineation Stream Identification, and NCWAM eferred.

### **ENVIRONMENTAL ANALYSIS**

Randy Griffin (919) 707-6121

**ON-SITE SERVICES (NES)** 

### rgriffin@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
227	Stream Biological Monitoring	Benthic Macroinvertebrate collection.	Biologist/ Ecologist		3		Key personnel must have a B.S Management Field. NC DWQ
228	Stream Mitigation Site Design and Construction Assistance & Post-Construction Monitoring		Biologist/ Ecologist, Soil Scientist, Engineer	P.E.	5		Key personnel must have a B.S. Management Field. NC DWQ Minimum of at least 2 stream (minimum of 1000 LF each) th based upon natural geomorph rock cross vanes, rock vanes, j project, linear feet of stream, of the work involved with the results and mitigation credit re meet compensatory mitigation Provide additional information that have been completed, inc completion date, owner of the the project. Please provide an Restoration and Construction.
229	Stream Mitigation Site Plan	Feasibility and preliminary planning.	Biologist/ Ecologist, Soil Scientist, Engineer	P.E.	3		Key personnel must have a B.S Management Field.
287	Wetland, Stream and Buffer Permitting	Development of Complete Application, including discussion of all relevant State and Federal issues that affect the permit decision (not just drawings).	Biologist/ Ecologist, Project Manager	P.E.	3		Key personnel must have a B.S Management Field. NEPA, CW NCDOT Plan Reading training p

#### Additional Requirements

S. in Biology, Ecology or other Natural Resource Aquatic Insect Collection certification preferred.

S. in Biology, Ecology or other Natural Resource Aquatic Insect Collection certification preferred. In mitigation restoration and/or relocation projects that included channel reconstruction or relocation hic designs incorporating in-stream structures (i.e., j-hook vanes, rootwads, etc.) Include name of completion date, owner of the project, a description project, as well as the post-construction monitoring release. Projects must be planned and designed to on requirements of USACE, NCDWQ, and/or NCDCM. In as appropriate on up to 5 additional stream projects cluding project name, linear feet of stream, e project and a description of the work involved with ny additional training/experience relating to Stream

S. in Biology, Ecology or other Natural Resource

S. in Biology, Ecology or other Natural Resource VA, Riparian Buffer Rules, CAMA training required. preferred.

285	Wetland Mitigation Site Planning	Feasibility and preliminary planning.	Biologist/ Ecologist, Soil Scientist, Engineer	P.E.	3	Key personnel must have a B. Management Field.
284	Wetland Mitigation Site Design and Construction Assistance & Post- Construction Monitoring		Biologist/ Ecologist, Soil Scientist, Engineer	P.E.	5	Key personnel must have a B. Management Field. Minimum (minimum of 10 acres each) th a prior impacted wetland syst Include name of project, size, of the work involved with the results and mitigation credit r meet compensatory mitigatio Provide additional information mitigation projects that have l completion date, owner of the the project. Please provide ar has relating to Wetland Resto

.S. in Biology, Ecology or other Natural Resource

S. in Biology, Ecology or other Natural Resource m of at least 2 wetland mitigation restoration projects that included restoration (site grading and planting) of tem for compensatory wetland mitigation credits. , completion date, owner of the project, a description e project, as well as the post-construction monitoring release. Projects must be planned, and designed to on requirements of USACE, NCDWQ, and/or NCDCM. on as appropriate on up to 5 additional wetland been completed, including project name, size, ne project and a description of the work involved with any additional training/experience that the company pration and Construction.

## GIS

# Jun Wu (919) 707-2155

### jwu@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Ad
31	Cartography	Expressing graphically, usually through maps, the natural and social features of the earth.					Must demonstrate knowledge a design, map projections, cartog output/presentation methods.
94	Field Date Collection	Plan, manage and execute the spatial acquisition of natural and social features.					Must demonstrate knowledge a the use of hardware (GPS receiv digital cameras, laser instrumer
87	Data Conversion	Perform data translation from one spatial format (this includes hard and soft copy sources) to another.					Must demonstrate knowledge a formats, database formats, geo geographic/database conversio
88	Data Validation (QA/QC)	Verify the quality of a spatial product during and/or after its production. This includes the following key elements: Completeness; Validity; Logical Consistency; Physical Consistency; Referential Integrity; Positional Accuracy.					Must demonstrate knowledge a data validation procedures.
189	Remote Sensing Data	Collection and interpreting information about the environment and the surface of the earth from a distance, primarily by sensing radiation that is naturally emitted or reflected by the earth's surface or from the atmosphere, or by sensing signals transmitted from a device and reflected back to it. Examples include aerial photography, radar and satellite imaging.					Must demonstrate knowledge a acquired from aircraft, satellites computer assisted technology.

### GIS

#### Additional Requirements

e and experience with digital and/or hard copy map ographic standards, map book generation and s.

e and experience with spatial data collection including ceivers, hand held computers, pen-based computers, nents) and data collection/mapping software.

e and experience with different geographic data eographic/database conversion software, sion coding and spatial data transfer standards (SDTS).

e and experience with QA/QC processes/methods and

e and experience with remote sensing images ites or ground bases, or platforms using visual or

Linda Jones	(919) 329-4003
lfjones@n	icdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
241	Thermoplastic	Provide Laboratory testing services in the area of thermoplastics			3		Key Personnel must be certifi ASTM, C256, D36, D92, D153 3720 or D4764, and E1349.
134	Lead-in / Loop Cable	Provide Laboratory testing services in the area of polyethylene plastic extrusion materials for wire and cable			3		Key Personnel must be certifi and D-1603.
16	Asphalt Materials - Binder & Emulsified	Provide Laboratory testing services in the area of asphalt binder and emulsion.			3		Key Personnel must be certifi Emulsion Testing and/or AAS 55, T-240, T-313, T-314, T-314 current accreditation through being performed.
518	Paint Testing						Key Personnel must be certil D1475, D2698, D3723
108	Hot Bitumen Adhesive	Provide Laboratory testing services in the area of hot bitumen adhesive					Key Personnel must be certil D2669, D2171, D4402, and D
91	Glass Beads	Provide Laboratory testing services in the area of glass beads for pavement markers			3		Key Personnel must be certif and Method 3052, ASTM D12
3	Aggregate	Provide Laboratory testing services in the area of aggregates					Key Personnel must be profic T27, R-58 (NCMod), T88 (NCM Firm's testing facility and equ
442	Hot Applied Joint Sealer	Provide Laboratory testing services in the area of hot applied joint sealers			3		Key Personnel must be certif

### LABORATORY SERVICES

#### **Additional Requirements**

fied to perform the following: AASHTO M249 and T250; 8, D792, D2240, D4960, D4796, D4797, D

fied to perform the following: ASTM D-1248,

fied to perform the following: AASHTO T-59 for SHTO R-28, T-44, T-48, T-49, T-51, T-53, T-228, T-301, T-L5 and T-316 for binder. Must also provide reference to sh AMRL or approved equivalent for all test procedures

ified to perform the following: ASTM D2369, D2371,

ified to perform the following: ASTM D36, D5, D5329, D92.

fied to perform the following: EPA Test Method 6010B 214 and D1155.

cient in conducting the following tests: AASHTO T11, Mod), T89 (NCMod), T90 (NCMod) and T265. uipment will also need to be assessed.

fied to perform ASTM D6690.

# Linda Jones (919) 329-4003

### lfjones@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
519	Level I Testing of Asphalt Mix	Provide certified Level I technician for testing of asphalt in Department laboratories.					Key Personnel must have a QN to show proficiency in QMS as
520	Basic Testing of Asphalt Mix	Provide entry level technician for testing of asphalt in Department laboratories.					Key Personnel must be capable work under the direct supervise
521	General Laboratory Technician	Provide entry level position capable of being embedded into one of the Materials and Tests Laboratories.	Engineering Technician- Contributing		0		Technician used in such areas not requiring a certification.
522	Laboratory Technician	Higher level position capable of being embedded into one of the Materials and Tests Laboratories.	Engineering Technician- Journey		5		Technician with various labora tested.
291	GeoMaterials Laboratory Certification (Tier I)						Laboratory and Technician cer 11, T-27, R-58 (NCMod), T-88 ( M-145. Optional Tests: T-267 Resource (Formerly AMRL) Acc equipment will also need to be
292	GeoMaterials Laboratory Certification (Tier II)						GeoMaterials Laboratory Cert 193 and ASTM D-1633.
293	GeoMaterials Laboratory Certification (Tier III)						GeoMaterials Laboratory Cert 297. Optional Tests: T-208 and
523	GeoMaterials Laboratory Certification (Tier IV)						Laboratory and Technician cer and C-1231. Firm must be cert facility and equipment will also

#### Additional Requirements

MS Level I Plant Certification. Technician must be able sphalt testing.

le of being trained on testing of asphalt and be able to ision of certified technicians.

as receiving samples and basic laboratory services

atory certifications related to the material being

rtification for the following AASHTO/NCMod tests: T-(NCMod), T-89 (NCMod), T-90 (NCMod), T-265 and 7 and T-289. Firm must be certified by AASHTO ccreditation Program. Firm's testing facility and be assessed.

tification (Tier I), plus AASHTO T-99, T-100, T-134, T-

tification (Tier I) and (Tier II), plus T-216, T-296 and Tnd T-215.

rtification for the following ASTM tests: C-39, C-617, tified by CCRL Accreditation Program. Firm's testing so need to be assessed.

# Linda Jones (919) 329-4003

**INSPECTION SERVICES** 

lfjones@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
119	Inspection of Prestressed Concrete	Provides hands on inspection services in the area of prestress concrete at the prestress concrete facility.	Engineering Technician- Journey				Key Personnel must be a certi
121	Inspection of QMS Asphalt Technician	Audit or Assessment of individual QMS technicians.					Key Personnel must have a QN
120	Inspection of QMS Asphalt Laboratory Equipment	Audit or Inspection of specific QMS laboratories.					Key personnel must have a QN
524	Inspection of Asphalt Pavement Placement	Inspection of placement operations – including laydown and density testing – of asphalt pavements.					Key Personnel must have a QN
525	Level II Inspection of Asphalt Mixtures and Facilities	Provide certified Level II technician for sampling, testing, and troubleshooting of asphalt at QMS laboratories and plant facilities.					Key Personnel must have a C able to show proficiency in QN
526	Asphalt QMS Technician Training	Provide trainer to perform instruction in Asphalt QMS Certification classes.					Key Personnel must have curr Plant, QMS Roadway, and communication skills, proficie class materials.
122 / 146	Inspection of Structure Coating						Key Personnel must have the certification; NACE Level I ar inspector.

#### Additional Requirements

ified Concrete Technician Level I.

MS Level II Plant Certification.

MS Level II Plant Certification.

MS Roadway Certification.

QMS Level II Plant Certification. Technician must be MS asphalt laboratory and plant operations.

rrent certifications for QMS Level I Plant, QMS Level II QMS Mix Design. Technician must have strong ency in training students, and competence in compiling

ne following: NCDOT Bridge Coating Inspector, Level I and six (6) months training with experienced coating

### INSPECTION SERVICES

# Linda Jones (919) 329-4003

<u>lfjones@ncdot.gov</u>

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
429	Inspection of Timber and Wood Products	Provide inspection services to verify the grade and treatment of timber products					Key personnel must be familia
443	Inspection of Structural Steel & Various Other Metal Products						Key Personnel must have the f with American Welding Society Particles Inspector; Certified U Inspector, NACE Level 1.
527	General Sampling Services	Provide entry level position capable of traveling to facilities to sample various materials. Samples will also need to be entered into the HICAMS database and delivered to the local laboratory.					Technician used in such areas a This entry level position requir
290	Other						

#### Additional Requirements

ar with AWPA specifications

following: Certified Welding Inspector in accordance

cy; Certified Radiography Inspector; Certified Mag

Jltra Sonic Inspector; Certified Dye Penetrate

as thermoplastic, glass beads, aggregates, paint, etc.

res no initial certifications.

# Matt Hilderbran

(919) 835-8204

### PAVEMENT MANAGEMENT

### mrhilderbran@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
152	Pavement Design	Design of concrete and asphalt pavement sections.	Pavement Design Engineer	P.E.	5	P.E.	Must show project experience Design. Must submit two (2) sa procedure.
149	Pavement Analysis & Backcalculation	Backcalculations of FWD. AASHTO '93 Procedure and Pavement ME Design.	Pavement Design Engineer	P.E.	5	P.E.	Must show project experience Design. Must submit two (2) so procedure.
151	Pavement Deflection & Dynamic Cone Penetration (DCP) Testing	Pavement and soil strength testing and pavement coring.	Project Technician with PE oversight		2		Must have access/ownership to current calibration reports. Motesting.
96	Ground Penetrating Radar and Analysis	Determination of layer thickness.	Project Technician/ Engineer	P.E. or L.G.	5	P.E. or L.G.	Must submit five (5) examples
438	Pavement Forensic Investigations	Evaluation of contract documents, construction diaries, materials testing during construction, materials sampling and testing post construction, FWD test interpretation, and development of failure causes and recommended treatments.	Project Engineer	P.E.	5	P.E.	Must submit two (2) reports of materials and test evaluations.

#### Additional Requirements

e with AASHTO '93 Procedure and Pavement ME sample designs for concrete and asphalt for each

e with AASHTO '93 Procedure and Pavement ME sample designs for concrete and asphalt for each

to Falling Weight Deflectometer and must provide Iust have access/ownership to a Core Rig for DCP

s of surveys with analysis and conclusions.

f contract documents, construction diaries, and

#### **PAVEMENT MANAGEMENT**

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
528	SID Inspection	Perform and evaluate drilled shaft inspections for bridges	Engineering Technician- Advanced	NA	2		Must have access/ownership t reports.
529	Pipe Inspection	Perform and evaluate inspections on new/old drainage pipes.	Engineer	P.E. and NASSCO Certified	5	P.E.	Must have access/ownership t multiple size and types of pipe include all findings)
530	MIT Scans	Perform and evaluation joints in concrete paving.	Engineer	P.E.	5	P.E.	Must have access/ownership t analyze the output onsite. Mu
531	Friction Testing	Collection of friction levels and skid resistance on pavements.	Pavement Design Engineer	P.E.	5	P.E.	Must show access/ownership tester that can be used at high reports/certification.

#### Additional Requirements

to SID equipment. Must submit two (2) SID Inspection

to a CCTV Rover and poll camera for inspection of e. Must submit two (2) video inspection reports (to

to a MIT Scanning device. Must be able to read and ust submit two (2) MIT Scan Reports for review.

to either locked wheel and/or continuous friction hway speeds. Must also provide current calibration

### ASSET MANAGEMENT

Joshua Vaughan (919) 835-8448

### ASSET MANAGEMENT

jlvaughan2@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
466	Maintenance Condition Assessment Surveys	Collect highway asset data to include asset inventory and condition, and/or roadway characteristics.					Must demonstrate knowledge a their relevant attributes. Emplevantattributes condition

### Additional Requirements

and experience with the various highway assets and hasis will placed on inventory, assessment, and n of these assets.

### **TRANSPORTATION PLANNING**

### TRANSPORTATION PLANNING

James Upchurch (919) 707-0928

Jhupchurch@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	P
141	Multimodal Transportation Planning						Must show expertise in develor various modes of transportation and forecasting of socio-econor participation for development
261	Long Range Transportation Planning						Must show expertise in the de Transportation Plans to satisfy areas with greater than 50,000
140	Travel Demand Model Development	Travel Demand model development for small area models (under 50,000) and regional models. Development of a new travel demand model or major/minor update of an existing travel demand model for various sizes of urban area (regional, MPO and non-MPO urban area.)					Must provide a list of travel de firm has worked on. Each pro- project and the role they playe demand model (size of study, approach); and anything uniqu other areas the firm has specia based modeling, etc.). Must li model development projects, each person listed, list travel of what capacity. Must have a cu

#### Additional Requirements

opment of the Transportation Plans which consider ion and connections among them, including collection omic data and travel survey data, and public t of a plan.

evelopment of the Multimodal Long Range y Federal regulations. These typically occur in urban 10 population.

emand model development projects for which the oject must contain: specific staff involved with the red in the development; the type and size of the travel number of TAZ and major components of model ue or special on these projects. Must provide a list of ialty (i.e. toll modeling, transit modeling, activity list all staff members who will work on travel demand including people who provide in-house QA/QC. For demand model projects they have worked on and in current TransCAD license.

363	Travel Demand Model Application	Application of existing travel demand models in NC for various purposes, including LRTP Analysis, CTP Analysis, Traffic Forecasting, Air Quality Conformity Analysis and other analyses required by NCDOT: i.e. Transit Ridership Analysis, Sub-area Analysis, Corridor Analysis, Toll Analysis, Travel Demand Management Decisions, Traffic Diversion and Emergency Evacuation Analysis, etc.			Must provide a list of travel d and current staff have worked involved with the project and size of the travel demand mo of the model used); details or used and for what purpose(s) demand model application pr For each person listed, list tra in what capacity. Must have a
6	Air Quality Conformity	Air Quality Conformity analysis is different from the project level noise studies and NEPA air quality studies.		5	Must show expertise and exp conformity analysis using trav examples of the completed st region), year it was developed current TransCAD license.
262	Travel Survey			5	Must show expertise and exp modeling or long range transp destination surveys, work pla demonstrate ability to perfor development, distribution, co about the area of the comple developed and who was the l
260	Comprehensive Transportation Planning Development				Must show expertise in devel to the state CTP requirement

demand model application projects for which the firm ed on. Each example project must show: specific staff d the role they played in the application; the type and odel (size of study, number of TAZ, and other features n how the model was used, what model output was ). Must list all staff members who will work on travel rojects, including people who provide in-house QA/QC. avel demand model projects they have worked on and a current TransCAD license.

berience performing regional transportation air quality vel demand model information. Must provide tudies, information about the area (urban, MPO, or ed and who was the leading expert. Must have a

perience performing surveys for travel demand portation planning, such as household surveys, originace surveys, commercial vehicle surveys, etc. Must rm Travel Surveys from beginning to end, including ompiling and data analysis. Must provide information eted survey (urban area, MPO or region), year it was leading expert.

lopment of Multimodal Transportation Plans according

251	Project Level Traffic Forecasting	Project Level Traffic Forecasting for: (1) areas with a regional model; (2) areas without with a small areas model; and (3) areas without the travel demand model. Specify which type of forecast should be completed. Project Level Traffic Forecasting is different than a traffic impact study or traffic impact analysis. We do not consider these tasks as relevant experience when considering firms qualified for PLTF.			Must have a current TransCAI hourly and turning movement which the firm has performed specific staff involved with the development, they type of for use travel demand model), an urgent turn around, unique, e valuable to bring to the Depar they have worked on and in w modeling, figure developmen completed for other entities.
75	Freight Forecasting				Must show ability to evaluate between defined units of geo future road network.
45	Corridor Planning				Must show expertise and exp future land use and the multi development occurs. Must ha use TransCAD, Micro Simulati

D license. May require to show ability to collect daily, at counts. Must provide a list of NCDOT TIP projects d with the last 4 years. For each project, list the ne project and the role they played in the precast used (regional model, other model, or did not and anything special concerning the forecast (complex, etc.) which show other techniques that may be artment. For each person, list the NCDOT TIP projects what capacity (data collection, analysis, travel demand ant, etc.). Must list additional projects firm has

e freight patterns by commodity and mode type ography at the county and state level for existing and

perience in corridor planning, coordinating existing and imodal transportation system to provide guidance as have a current TransCAD license. Must show ability to ion and Public Participation.

### **ROADSIDE ENV – SOIL & WATER**

# David Harris

(919) 707-2925

### davidharris@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
70	Erosion and Sediment Control Design	All services associates with the design of an approved erosion and sediment control plan that meets current standards outlined in the most recent version of the NCDENR – Erosion and Sediment Control Planning and Design Manual for erosion control techniques.	Level III Certified Erosion Control Designer	Required: Level III: Design of Erosion and Sediment Control Plans; CPESC and P.E. are preferred	Designer: 2 Tech: 1		Must submit an org design/monitoring registrations, comp they are permanen key employee who Roadside Environm project manager), f work that has been Unit or other author lists and descriptio of clients and owner descriptions and de the NCDOT, this wo
231	Stream Restoration/Mitigation Monitoring	All services associated with the stream restoration/ mitigation monitoring work.	Engineer or Biologist		5		Must submit an org design/monitoring registrations, comp they are permaner key employee who Roadside Environm project manager), p work that has been Unit or other autho lists and descriptio of clients and owne descriptions and de the NCDOT, this wo

#### **Additional Requirements**

ganization chart identifying the firms g team and their years of experience, applicable pany history involved in this type work, and verify that nt employees of the firm. Must submit at least one (1) o will be responsible for all communication with the nental Unit. For each employee (engineer, biologist or must submit two (s) examples of NCDOT or similar n approved/reviewed by the Roadside Environmental ority. Each sample of work should include: project ons, including names and current contact information ers, resumes, references, certificates, experience etails, etc. If a firm has previously completed work for ork will be also considered for prequalification.

ganization chart identifying the firms g team and their years of experience, applicable pany history involved in this type work, and verify that nt employees of the firm. Must submit at least one (1) o will be responsible for all communication with the nental Unit. For each employee (engineer, biologist or must submit two (s) examples of NCDOT or similar n approved/reviewed by the Roadside Environmental ority. Each sample of work should include: project ons, including names and current contact information ers, resumes, references, certificates, experience etails, etc. If a firm has previously completed work for ork will be also considered for prequalification.

			l		
283	Wetland Restoration/	All services associated with the wetland	Engineer or	5	Must submit an or
	Mitigation Monitoring	restoration/ mitigation monitoring	Biologist		design/monitoring
		work.			registrations, com
					they are permaner
					key employee who
					Roadside Environn
					project manager),
					work that has beer
					Unit or other auth
					lists and descriptio
					of clients and own
					descriptions and d
					the NCDOT, this w
542	Pond/Lake Analysis	All services associated with the analysis	Engineer,	10	Must submit an or
		of impacts to ponds, lakes, or other	Biologist, or		expert or team and
		aquatic resources associated with	Professional		company history ir
		sediment deposition.			permanent employ
					employee who wil
					Roadside Environn
					project manager),
					approved/reviewe
					work should includ
					current contact inf
					certificates, experi
					previously complete
					considered for pre

rganization chart identifying the firms g team and their years of experience, applicable pany history involved in this type work, and verify that nt employees of the firm. Must submit at least one (1) o will be responsible for all communication with the mental Unit. For each employee (engineer, biologist or must submit two (s) examples of NCDOT or similar n approved/reviewed by the Roadside Environmental ority. Each sample of work should include: project ons, including names and current contact information mers, resumes, references, certificates, experience letails, etc. If a firm has previously completed work for rork will be also considered for prequalification.

rganization chart identifying the firm's subject matter d their years of experience, applicable registrations, nvolved in this type work, and verify that they are yees of the firm. Must submit at least one (1) key II be responsible for all communication with the mental Unit. For each employee (engineer, biologist or must submit two (s) examples of work that has been ed by the NCDOT or other authority. Each sample of de: project lists and descriptions, including names and formation of clients and owners, resumes, references, ience descriptions and details, etc. If a firm has eted work for the NCDOT, this work will be also equalification.

543	Erosion Control and	All services associated with the analysis	Engineer,	10	Must submit an org
	Sedimentation	of Turbidity Reduction for existing	Biologist, or		expert or team and
	Specialist/Turbidity	erosion and sedimentation control on	Professional		company history in
	Reduction Analysis	active construction projects			permanent employ
					employee who will
					Roadside Environm
					professional), must
					approved/reviewe
					work should includ
					current contact inf
					certificates, experie
					previously complet
					considered for pre

rganization chart identifying the firm's subject matter ad their years of experience, applicable registrations, nvolved in this type work, and verify that they are oyees of the firm. Must submit at least one (1) key II be responsible for all communication with the mental Unit. For each employee (engineer, biologist or st submit two (s) examples of work that has been ed by the NCDOT or other authority. Each sample of de: project lists and descriptions, including names and formation of clients and owners, resumes, references, rience descriptions and details, etc. If a firm has eted work for the NCDOT, this work will be also equalification.

# Jeff Walston (919) 707-2944

### **ROADSIDE ENV-UST REMEDIATION**

jdwalston@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
544	Underground Storage Tank	All services associated with the	Engineer,		5		Must submit an org
	Program Management	managing, monitoring, and remediation	Biologist, or				expert or team and
	/Monitoring/Remediation	of underground storage tanks.	Professional				company history in
							permanent employ
							employee who will
							Roadside Environm
							professional), must
							USTs. Each sample
							descriptions, includ
							and owners, resum
							and details, etc. If
							this work will be als

#### **Additional Requirements**

rganization chart identifying the firm's subject matter d their years of experience, applicable registrations, nvolved in this type work, and verify that they are yees of the firm. Must submit at least one (1) key II be responsible for all communication with the mental Unit. For each employee (engineer, biologist or st submit examples of work and experience involving e of work should include: project lists and ding names and current contact information of clients nes, references, certificates, experience descriptions a firm has previously completed work for the NCDOT, lso considered for prequalification.

### **ROADSIDE ENV – ENVIRONMENTAL REMEDIATION**

### Jason Prosser (919) 707-2927

### jfprosser@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
545	Asphalt Testing Laboratory, and Environmental Regulatory Support	Site Investigations including Environmental Forensics, Field Investigation, Data Analyses and Technical Reporting. Site Cleanup including Pilot Testing, Data Analyses, and Remedial Design. Water Resource development including regional water studies, selection of well locations, design and construction of water systems, construction administration. Expert witness support.	Engineer, Earth Scientist, Geologist, Geophysicist, Geochemist, Archaeologist, Biologist, Attorney, or other applicable professional	As appropriate to profession and North Carolina General Statutes	10	As appropriate to profession and North Carolina General Statutes	Potential consultar project team, their Must identify a key the REU. Description shows knowledge of Subchapters 2B & 2 CERCLA, RCRA, SDW example (e.g., PA/S approved/reviewed include project des clients and owners descriptions and de
546	Program Management Services	Support Internal/External Operations on an as needed basis for Stormwater, ATL, LUST, Hazardous Waste, and other REU programs	Engineer, Earth Scientist, Geologist, Geophysicist, Geochemist, Archaeologist, Biologist, Attorney, or other applicable professional	As appropriate to profession and North Carolina General Statutes	25	As appropriate to profession and North Carolina General Statutes	Potential Program progressive experie operations. Demon water program, AT the department, or senior managemen Fiscal Section, Boar Direct experience v US ACE, NC DEQ, co firms. Demonstrab and working familia CMPOs.

#### **Additional Requirements**

nt must submit an organization chart identifying r years of experience, and applicable registrations. y employee responsible for all communication with ion of company history in comparable work that of §130A and Articles 21 & 21A §143, Title 15A NCAC 2L, NC case law applicable to pollution liability, WA, CWA, etc. Must show at least one work product SSI, RI/CSA/RFI, RI/FS, CAP/RAP, etc.) that has been ed by NCDOT or other authority. Work example should scriptions, names, and current contact information of s, resumes, references, certificates, experience etails, etc.

Management Support Services consultant must show ence with NC DOT and intimate knowledge of REU instrated knowledge of history and details of storm TL sites, hazardous waste management program for r other in house programs. Direct experience with nt including Chief Engineer, AG's office, PSMU, IG, rd of Transportation, and NC General Assembly. with other regulatory agencies including the US EPA, ounty health departments, CAPA, and asphalt paving ble experience performing government cost estimates farity with SAP including management of LSC and

#### **ROADSIDE ENV – STORMWATER OPERATIONS MANAGEMENT**

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Dan Oconnor

(919) 707-2924

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
547	Stormwater/NPDES Monitoring and Assessment	All services associated with the management of and implementation of components of the Department's Stormwater Program.	Engineer, Scientist, or other applicable professional	As appropriate to profession and North Carolina General Statutes	10	As appropriate to profession and North Carolina General Statutes	Must submit an or expert or team an company history in permanent emplo employee who wil Roadside Environr professional), mus approved/reviewe work should includ current contact in certificates, exper previously comple considered for pre
548	Waste/ Wastewater Permitting, Monitoring and Assessment	All services associated with the management of and implementation of a program that addresses various waste/wastewater environmental permitting, assessment, training for DOT related construction and industrial activity wastes.	Engineer, Scientist, or other applicable professional	As appropriate to profession and North Carolina General Statutes	10	As appropriate to profession and North Carolina General Statutes	Must submit an or expert or team and company history in permanent emplo employee who wil Roadside Environr professional), must approved/reviewe work should include current contact int certificates, expert previously complet considered for pres

#### **Additional Requirements**

rganization chart identifying the firm's subject matter nd their years of experience, applicable registrations, involved in this type work, and verify that they are byees of the firm. Must submit at least one (1) key ill be responsible for all communication with the mental Unit. For each employee (engineer, biologist or st submit two (s) examples of work that has been ed by the NCDOT or other authority. Each sample of ide: project lists and descriptions, including names and nformation of clients and owners, resumes, references, rience descriptions and details, etc. If a firm has eted work for the NCDOT, this work will be also equalification.

rganization chart identifying the firm's subject matter nd their years of experience, applicable registrations, involved in this type work, and verify that they are byees of the firm. Must submit at least one (1) key ill be responsible for all communication with the mental Unit. For each employee (engineer, biologist or st submit two (s) examples of work that has been ed by the NCDOT or other authority. Each sample of ide: project lists and descriptions, including names and nformation of clients and owners, resumes, references, rience descriptions and details, etc. If a firm has eted work for the NCDOT, this work will be also equalification.

### **RAIL DIVISION**

# Greg Keel (919) 715-7892

### RAIL-HIGHWAY CROSSING

### gkeel@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
182	182 Railroad Crossing Signal & Traffic Engineering Services	Civil design of grade crossing separation projects.	Project Engineer	P.E.	5	P.E.	Must show experience in desig signals/gates projects at multip railroad-preempted traffic sign experience in grade crossing si experience in railroad-preemp
		Electrical design of grade crossing signals/gates projects.	Project Engineer	P.E.	5	P.E.	Must show experience in design signals/gates systems. Experience crossing control systems, wiring elements necessary for a fully in accordance with host railroad required, but desired.
		Other traffic engineering services.	Project Engineer	P.E.	5	P.E.	Must show experience with tra highway-rail crossing inventor specifications.
255	Traffic Separation Studies & Crossing Evaluation Studies		Project Engineer	P.E.		P.E.	Roadway design experience re not a requirement. Experience

#### Additional Requirements

gn of civil plans for highway-rail grade crossing ple locations. Must show experience in design of nals. Must have at least one registered PE with signals. Must have at least one registered PE with oted traffic signals.

gn of electrical/electronic highway-rail grade crossing ence must include track circuits, train detection/ ng of flashing light signals and gates, and all other functional automatic grade crossing warning system ad and NCDOT standards and specifications. P.E. not

affic capacity analysis, traffic safety analysis, and y in accordance with FRA and NCDOT standards and

equired. Experience in feasibility studies is a plus, but e in railroad work is plus, but not a requirement.

468	Railroad Information & Data Acquisition Liaison	Performs administrative and technical duties in support of NCDOT rail programs. Performs crossing safety evaluations. Evaluates crossing sites for roadway geometry, potential risks, and crossing safety issues. Prepares estimates of probable cost for or value of project decisions. Coordinates exchange of railroad specific information among entities including public, railroad company representatives, and other governmental agencies.			15		Must have extensive experier industry specific to crossing sa administration, including dem facilitating crossing project sc
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nce and demonstrable expertise in the railroad safety planning, education, construction, and contract monstrated communications skills in negotiating and copes.

### **RAIL DIVISION**

# Greg Keel (919) 715-7892

### **RAIL ENGINEERING**

### gkeel@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	ļ
394	Industrial and Yard Track Design and Layout						Must show recent project exp preliminary through final desig
395	Freight Main Track Design and Layout						Must show several examples of layout of freight railroad main
396	Innercity Passenger and HSR Design and Layout						Must show several examples of layout, from preliminary throus passenger and high speed rail
397	Rail Transit Design and Plans Review						Must show recent project exp In addition, design review con transit stakeholders as this is r
183	Railroad Communications and Signal System Design						Must show project experience Class I railroads.
191	Review of Railroad Engineering Drawings, Standards & Specifications						Must show project experience specifications for rail improve one review contract in recent
176	Rail Construction Project Inspection & Management						Must show the presence of a construction means and meth projects for Class I railroads.
178	Rail Corridor Traffic Modeling & Capacity						Must show experience related recent project history given.

#### Additional Requirements

perience related to the design and layout, from ign and construction, of industrial and yard tracks.

of recent project experience related to the design and n track and siding design.

of recent project experience related to the design and ugh final design and construction, of intercity I track design.

perience related to the design of rail transit projects. Intracts should be noted when completed for rail required for prequalification under this code.

in designing discipline components and projects for

e as a reviewer of drawings, standards, and ement project stakeholders and owners. More than history is desirable.

current safety program, familiarity with railroad hods, and experience inspecting railroad construction

I to rail traffic modeling and capacity studies with

483	Rail Engineering Contracts and	Develop and review contracts and		5	Must have experience and exp
	Agreements and Business	agreements for rail engineering,			contracts and agreements. Sh
	Practices	planning, crossing safety, and			Experience with SAP (as it rela
		operations and facilities in support of			
		NCDOT rail programs; review Rail			
		business practices to ensure compliance			
		with NCDOT policies and procedures.			

opertise in the transportation industry specific to should have experience with NCDOT business practices. lates to NCDOT) is desirable.

### **RAIL DIVISION**

# Greg Keel (919) 715-7892

### **PROJECT PLANNING**

### gkeel@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
180	Rail Functional and Preliminary Design						Must show project experience include recently completed pr improvements. Alternatives a firm's ability to propose variou
234	Studies of Economic & Fiscal Impact of Rail Related Activities	Economic analysis of rail related activities.			5		Must show substantial experie local and regional economies, from passenger rail and freigh
52	Demand Modeling, Ridership, Revenue, Operating Costs for Commuter & Intercity Passenger Rail Operations	Ridership/Revenue modeling for passenger rail systems.			10		Must show substantial experie forecasting for passenger rail s seaboard and Northeast rail co
257	Train Performance & Rail Line Capacity Analysis	Train Performance Calculation and Capacity Modeling.			5		Must show substantial experie Calculation as well as Capacity
238	Technical & Negotiation Assistance in Securing Rail Lines or Corridors				5		Must show experience in the v including corridors and miscel experience in negotiations wit of right-of-way, equipment, ar

#### Additional Requirements

e in rail design at the concept and functional level, to rojects related to new location or existing alignment analysis history is also desired as it demonstrates the us solutions for complex issues.

ence estimating direct and in-direct cash inputs to , job creation and other economic impacts resulting nt rail related activities.

ence performing ridership/revenue modeling and service, including familiarity with the eastern orridor.

ence performing all aspects of Train Performance y Modeling for passenger and freight rail systems.

valuation of railroads, both active and inactive, llaneous property and rolling stock. Must show th Class 1 and short-line railroads regarding purchases nd business interests.

437	Viability Analysis & Support	Activities related to the determination			Must show expertise and subs
	Work for Railroad Related	of viability and/or feasibility of rail			experience in at least one of t
	Projects	related projects, both freight and			maintenance, inspection, regu
		passenger, from the standpoint of:			analysis, performance evaluat
		logistics, alternatives analysis,			related fields as appropriate t
		intermodal relationships, performance,			
		economics, regulatory compliance, and			
		other related disciplines. It also covers			
		support areas involving applications and			
		agreements preparation, performance			
		metrics, and all aspects of the rail			
		planning process, both direct and			
		indirect (as in rail-related aspects of			
		"non-rail" transportation projects, such			
		as scoping needs for highway projects			
		that interface with the rail system).			

ostantial railroad (passenger and/or freight) related the following areas: planning, design, operations, gulatory compliance, logistics, intermodal, economic ation, coordination/communications, staff support, or to specific project needs.

### **RAIL DIVISION**

### **OPERATIONS FACILITIES DESIGN AND MANAGEMENT**

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
148	Passenger Station Design	NCDOT historically has been involved in renovations of pre-1950 passenger stations and as of late new stations. These newer stations are of the modern style of construction that is being built today.	Project Manager	R.A.	10	AIA	Must show several examples o layout. A broad understanding regulations, ADA compliance, a
107	Historic Passenger Station Renovations	NCDOT historically has been involved in renovations of pre-1950 passenger stations. Historical stations usually contain high levels of asbestos and lead paint. Abatement of these materials is required before renovations begin.	Project Manager	R.A.	20	AIA	Must show several examples of restoration of historical station Building Codes, FRA rules and ordinances is required.
147	Passenger Platforms	NCDOT has been involved in the design, management, and construction of passenger platforms located along railroad tracks.	Project Manager	P.E. or R.A.	10	PE or AIA	Must show several examples of passenger trains; building code requirements; and ADA compl
41	Rail Construction Administration	This is for work specific to the Rail Division. NCDOT is required to oversee the design and construction on any given project. That oversight can be accomplished on the more complex projects with consultants who help in the financial, documentation, and	Project Manager	P.E. or R.A.	10	PE or AIA	

oversight of construction tasks.

# Greg Keel (919) 715-7892

### gkeel@ncdot.gov

#### Additional Requirements

of recent project experience in station design and ng of the North Carolina Building Codes, FRA rules and , and local zoning ordinances is required.

of recent project experience in the renovation and ons. A broad understanding of the North Carolina regulations, ADA compliance, and local zoning

of passenger platforms. An understanding of es; FRA rules and regulations; Amtrak, CSXT, and NS liance is required.

137	Maintenance Facility	NCDOT has been involved in the design, management, and construction of maintenance facilities located along railroad tracks.	Project Manager	P.E. or R.A.	10	PE or AIA	Must show several examples passenger trains, building coc local zoning ordinances is req
179	Rail Facilities	NCDOT has been involved in the design, management, and construction of rail facilities.	Project Manager	P.E. or R.A.	10		Must show several examples building codes, FRA rules and ordinances is required.
181	Rail Sidings	Associated with the NCDOT Preserved Corridors, Train Stations, and Locomotive & Railcar Maintenance Facilities.	Project Engineer	P.E.	5	P.E.	Must show recent project exp preliminary through final desi
177	Rail Corridor Maintenance Assessments, Surveys and Lease Studies	NCDOT has been involved in the maintenance, preservation, and reactivation of railroad corridors throughout the state.	Project Engineer	P.E.	5	P.E.	A detailed understanding of r required. Must show recent surveys of work to be comple
469	Rail Car Lean Tests/High Cant Deficiency	NCDOT is required by the FRA to demonstrate compliance of equipment operating in <i>Piedmont</i> service to 49 CFR Part 213, Section 213.57(b) and (d) for maximum cant deficiencies of 3 and 4 inches at operating curving speeds. NCDOT Collects data from static lean testing and route testing to confirm the steady state roll angles, which are suitable for NCDOT equipment to operate at 3 and 4 inch cant deficiencies.	Project Engineer	P.E.	7	P.E.	Must show experience in inte for maximum cant deficiencie

of maintenance facilities. An understanding of des, FRA rules and regulations, ADA compliance, and quired.

of rail facilities. An understanding of passenger trains, regulations, ADA compliance, and local zoning

perience related to the design and layout, from sign and construction, of industrial and rail sidings.

maintenance assessments, surveys, and lease studies is project experience related to the assessments and eted. Also, show recent examples of lease analysis.

erpreting 49 CFR Part 213, Section 213.57(b) and (d) es of 3 and 4 inches at operating curving speeds.

471	Rail Ride Quality Testing	To ensure the best possible quality of ride for passengers on NCDOT equipment and as a maintenance tool, NCDOT occasionally conducts ride quality testing along the <i>Piedmont</i> route. NCDOT conducts dynamic state testing utilizing accelerometers mounted to the railcar truck frames and car bodies. This data is collected and analyzed to identify potential equipment maintenance issues or locations of track deficiencies based on locations and trends of above average recorded G loads.	Project Engineer		5	P.E.	
472	Rail Lighting/Signage Testing	NCDOT equipment must comply with and meet all FRA regulations and APTA standards for lighting levels and signage requirements on passenger equipment. NCDOT conducts lighting and signage assessments after refurbishment programs conclude. NCDOT conducts various tests to ensure light levels in various parts of the passenger cabin are above the minimum federally mandated levels for luminosity, emergency lighting meets federal requirements for time and luminescence, and emergency signage placements meet FRA and APTA requirements.	Project Engineer	P.E. Desirable	5	P.E.	



473	Rail Fire Safety Analysis	NCDOT conducts fire safety analysis on all materials used in its rail passenger cars during the refurbishment process and when new material types are incorporated into the railcar passenger area. Fire analysis is required by 49 CFR 238.103 (d) for in service railroad passenger equipment. Information is obtained on material from providers and vendors, consultants examine physical properties within each car, and consultants determine whether any material included in any NCDOT rail passenger car might pose a fire safety risk, which may affect the overall equipment operation.	Project Engineer	P.E.	7	P.E.	
474	Rail Alternative Fuels	NCDOT has been working with the NCSU Environmental Engineering (EE) Department to test the performance of our locomotives on various blends of biodiesel fuel, with the intent of reducing fuel emissions and thus creating a more "green" program. To date locomotives have been tested with biodiesel fuel blends ranging from 10- 60% biodiesel, with future plans to continue testing one locomotive to 100% biodiesel fuel. NCDOT will also be evaluating other alternative fuels, including but not limited to, Liquid Natural Gas and Fuel Cell/Hydrogen Technologies.	Project Engineer	P.E. Desirable	7	PhD or P.E.	



475	Positive Train Control (PTC) for Locomotives	Support development of a Positive Train Control Development Plan (PTCDP), which is necessary for compliance with 49CFR236. This development plan will address the locomotive requirements, as part of the full PTCDP implementation. The scope of services includes development of PTC Implementation Plan, Safety Plan, Training Program and Maintenance Program Integration. Provide NCDOT guidance on issues related to the congressional mandate requiring US railroads to implement Positive Train Control (PTC) by December 2015. Provides updates on the status of regulatory requirements being developed by the Federal Railroad Administration (FRA) and how those requirements may pertain to current and planned NCDOT passenger train operations. Provides input and recommendations as part of the development of PTC regulations as per the FRA process. Provides NCDOT representation at PTC conferences and meetings with FRA, Norfolk Southern, CSX and Amtrak. Provides updates/presentations to Department staff and/or other stakeholders relative to pending PTC regulatory requirements. Produce recommendations for grade crossing protection for integration into the PTC system. Produces equipment specifications and installation schedule for NCDOT locomotives, as well as provide installation and implementation oversight services.	Project Engineer	P.E.	7	P.E.	

476	Rail Facilities Track Design	Includes the NCDOT Preserved Corridors, Train Stations, and Locomotive & Railcar Maintenance Facilities.	Project Engineer	P.E.	5	P.E.	Must show recent project exp preliminary through final desi and yard tracks.
477	Rail Architectural Services	Specific to rail passenger train stations or Locomotive and Railcar Maintenance Facilities.	Project Manager	A.I.A.	5	A.I.A.	
478	Rail Reliability Centered Maintenance (RCM)	Technical Support to assess maintenance services for the NCDOT <i>Piedmont</i> Service. Tasks include, but are not limited to, Life Cycle Maintenance Projections, Maintenance Plan Efficiencies, evaluation of potential cost reductions, evaluation of current Planned Maintenance Program and identification of Predictive Maintenance (PdM) and/or Condition Based Maintenance Program.	Project Manager	P.E. Preferred	5	P.E. Preferred	
494	Passenger Station Site Design	The associated site design at railroad passenger station projects that include elements such as parking, erosion control, storm water control, utility design, open space, setbacks and other local ordinance, and State and Federal requirements.	Project Engineer or Project Architect	P.E.	10 years	P.E. or AIA	Must show recent project exp preliminary through final desi

perience related to the design and layout, from sign and construction, of industrial, passenger station

perience related to site design and layout, from sign and construction.

### **RAIL DIVISION**

# Greg Keel (919) 715-7892

### RAIL SAFETY OVERSIGHT

### gkeel@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Ac
457	Safety Oversight of Rail Fixed Guideway Systems	Safety oversight of rail transit systems and freight railroads through the enforcement and administration of pertinent federal regulations.	Task Manager		5		Must show experience in interp CFR Transportation Part 659 an Administration's State Safety O

### Additional Requirements

rpreting, enforcement and administration of Title 49 nd associated Parts applicable to the Federal Transit Oversight Program.
### **PROGRAM DEVELOPMENT**

### PROJECT PLANNING

# Derrick Lewis (919) 707-4663

### dlewis@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
200	Feasibility Studies						Must show experience in performainline analysis (two lane, modeling software. Must show and justification studies and provide and modeling minimal information. Modeling minimal information. Modeling minimal information.
532	Project Funds Management	Technical assistance with managing State Transportation Improvement Program Project funds and Powell Bill Program. Tasks include, but aren't limited to: creating, modifying, deleting, and closing projects in SAP based on actions by the Board of Transportation or project status; entering updated cost estimates for projects in SAP; SAP reporting; assisting with Powell Bill allocations, applications, local street eligibility determinations, certified statements, digital maps, expenditures, reports, agreements, invoices, and financial monitoring.	Accountant or Fiscal data analyst		10		Must have financial managem Must have knowledge of SAP a

#### Additional Requirements

forming detailed Highway Capacity analysis, including nultilane, arterial & freeway), interchanges, is, as well as traffic simulations using advanced traffic ow experience in performing interchange modification

reparing conceptual and functional roadway designs lust show experience in performing and documenting various types of improvements.

nent and/or accounting experience. and able to manage project funds within SAP.

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	ļ
533	STIP Database Technical Assistance	Technical assistance with STIP database management, queries, and reports. Tasks include, but aren't limited to: managing Microsoft Access and SQL database tables; running specialized queries and reports, both ad hoc and routine, as needed; making changes to database design as needs dictate.	Data Analyst or Database programmer		10		Must have substantial databas products. Must have ability to database queries or modificat Transportation Investments (S
534	STIP GIS and Map Support	Technical assistance to support STIP development of maps and other graphics. Tasks include creating, maintaining, and modifying GIS data layers and creating maps and illustrations using ArcGIS, SDV, NCDOT GIS Online, and other appropriate tools.	Engineering Technician		10		Must have substantial GIS and quickly to ad hoc requests rela knowledge of Strategic Transp constraints, and structures.
535	STIP Reporting and Analysis	Technical assistance to support STIP development and project delivery. Tasks include, but aren't limited to: data management, analysis, and reporting related to programming functions and STIP development; and data management, analysis, reporting, and correspondence related to filed, rescinded, or litigated Corridor Protection Maps and properties affected by them.	Engineer		10		Must have ability to respond of questions, Corridor Map issue Must have working knowledge funding rules, constraints, and the Corridor Official Map Act ( Part VI (Map Act Changes).

#### Additional Requirements

ase experience, especially with Microsoft database o respond quickly to ad hoc requests related to tions. Must have working knowledge of Strategic STI) and its funding rules, constraints, and structures.

d graphics experience. Must have ability to respond ated to map generation. Must have working portation Investments (STI) and its funding rules,

quickly to ad hoc requests related to programming es, or requested reports.

e of Strategic Transportation Investments (STI) and its d structures. Must have a working understanding of (NCGS 136, Article 2E) and NC Session Law 2016-90,

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
549	Prioritization	Assistance to support the development and implementation of the Strategic Transportation Investments (STI) and other NCDOT project prioritization processes. Tasks include, but aren't limited to, reviewing criteria and data and making recommendations for project evaluation analyses (across all modes of transportation); reviewing and making recommendations of guidelines and/or policies, developing tools/applications; preparing reports and presentations; conducting statistical analyses; reviewing local input point methodologies; providing technical assistance to Division staff, MPO staff, and/or RPO staff; assisting with the evaluation of highway and non-highway projects; training	Engineer		10		Must have working knowledge funding rules, constraints, and ad hoc requests related to prio

### Additional Requirements

e of Strategic Transportation Investments (STI) and its I structures. Must have ability to respond quickly to oritization.

## VALUE MANAGEMENT UNIT

# Alyson Tamer (919) 707-4806

VALUE MANAGEMENT

awtamer@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
79	General Meeting Facilitation						
226	Strategic Planning						
373	Team Leader (PE)			PE			
374	Team Facilitator (CVS)			CVS			
375	Partial VE Study Team: Roadway Design Engineer			PE			
376	Partial VE Study Team: Hydraulics Design Engineer			PE			
377	Partial VE Study Team: Structure Design Engineer			PE			
378	Partial VE Study Team: Geotechnical Design Engineer			PE			
379	Partial VE Study Team: Traffic Operations Engineer			PE			
380	Partial VE Study Team: Project Estimator			PE			

dditional Requirements

381	Partial VE Study Team: Roadway Construction Engineer		PE			
382	Partial VE Study Team: Bridge Construction Engineer		PE			
383	Roadway Maintenance Engineer		PE			
384	Bridge Maintenance Engineer		PE			
385	Entire VE Study Team (PE)		PE			
386	Constructability Expert					
387	Complementary Service: Information Gathering					
388	Complementary Service: Provide Facility for Team Studies					
389	Complementary Service: Prepare VE Study Report					
390	Complementary Service: Formal Presentation					
391	Complementary Service: Development of Implementation Plans					
392	Procedure Development & Documentation					
				1		

393	Value Engineering Training (CVS)	CVS		
484	Partial VE Study Team: Project Development/Planning/Env.			
485	Resource Conservation Expert			

### **UTILITIES UNIT**

Revised as of 2/14/17

#### UTILITY ENGINEERING

# Carl Barclay (919) 707-6982

### cbarclay@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
173	Public Water Distribution Systems	Analysis of existing Public Water Distribution Systems for conflicts with highway project construction. Design and development of Utility Construction Plans for resolving these conflicts.	Engineer	P.E.		P.E.	Must submit samples of repor specifications demonstrating o
174	Public Water Transmission Systems	Analysis of existing Public Water Transmission Systems (24" minimum diameter) for conflicts with highway project construction. Design and development of Utility Construction Plans for resolving these conflicts.	Engineer	P.E.		P.E.	Must submit samples of repor and specifications demonstrat
203	Sanitary Sewer Collection Systems	Analysis of existing Sanitary Sewer Collection Systems for conflicts with highway project construction. Design and development of Utility Construction Plans for resolving these conflicts.	Engineer	P.E.		P.E.	Must submit samples of repor and specifications demonstrat
204	Sanitary Sewer Outfall Systems	Analysis of existing Sanitary Sewer Outfall Systems (24" minimum diameter) for conflicts with highway project construction. Design and development of Utility Construction Plans for resolving these conflicts.	Engineer	P.E.		P.E.	Must submit samples of repor plans and specifications demo

#### Additional Requirements

rts of water line analysis. Must submit plans and design of water line relocations.

rts of water transmission analysis. Must submit plans ting design of water line relocations.

rts of sanitary sewer line analysis. Must submit plans ting design of sanitary sewer relocations.

rts of sanitary sewer outfall analysis. Must submit onstrating design of sanitary sewer outfall relocations.

## **UTILITIES UNIT**

# Amy G. Dupree

## 919 707-6996

UTILITY COORDINATION

agdupree@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
270	Utility Coordination	Analysis of existing overhead and underground dry utilities for conflicts within highway project construction. Identification of ROW/PUE requirements. Design and development of Utility by Others plans by obtaining owner concurrence for proposed utility relocations.					Must submit samples of report preliminary routing was design

#### Additional Requirements

ts of any project where a utility analysis and ned for electrical, gas and telephone facilities.

## **RIGHT OF WAY UNIT**

### **RIGHT OF WAY**

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Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
194	Right of Way Negotiators		Right of Way Negotiator	Real Estate Broker's License		Real Estate Broker's License	Must submit resume and expe
192	Right of Way Appraisals		Right of Way Appraiser	Appraiser's License		Real Estate Broker's License	Must submit resume and expe
186	Relocation Assistance					Real Estate Broker's License	Must submit resume and expe
13	Appraisal Review					Real Estate Broker's License	Must submit resume and expe
185	Relocation Review					Real Estate Broker's License	Must submit resume and expe
168	Project Management					Real Estate Broker's License	Must submit resume and expe
170	Property Management					Real Estate Broker's License	Must submit resume and exp

Neil Strickland

(919) 707-4364

#### Additional Requirements

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

perience of firm and all staff that perform this work.

# **RIGHT OF WAY UNIT**

### LEAD PAINT

nstrickland@ncdot.gov
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(919) 707-4364

Neil Strickland

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
339	Lead Paint Testing			NC Accredited Lead Paint Professional Certification	5		Key person must be computer
340	Lead Paint Abatement			NC Accredited Lead Paint Professional Certification	5		Key person must be computer

### **RIGHT OF WAY UNIT**

MOLD

# Neil Strickland (919) 707-4364

nstrickland@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Ad
341	Mold Testing				5		Key person must be computer l
342	Mold Remediation				5		Key person must be computer l

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literate.	
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#### Additional Requirements

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# **RIGHT OF WAY UNIT**

### <u>nstrickland@ncdot.gov</u>

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Δ
343	Asbestos Survey	Inspection		NC Accredited Asbestos Professional Certification	5		Key person must be computer
344	Asbestos Abatement			NC Accredited Asbestos Professional Certification	5		Key person must be computer
345	Asbestos Awareness Training			NC Accredited Asbestos Professional Certification	5		Key person must be computer

ASBESTOS

# Neil Strickland (919) 707-4364

dditional Requirements	
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literate.	

### **DIVISION OF AVIATION**

# Kathryn Vollert (919) 814-0571

#### **DIVISION OF AVIATION**

### kmvollert@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
11	Airport System Planning	Planning a system of airports on a regional or statewide basis. Analysis of previous State Aviation System Plans as well as existing individual Airport Master Plans and as-built drawings, collection of operational data, activity forecasting and demand-capacity analysis.	Project Manager	P.E. or Certified Planner		P.E. or Certified Planning	Must submit recent projects co Airport System Planning Proces well as any projects/studies re Master Plans' and provide the owner, number/ type of airpor commencement and completio of a scope of work which has c
10	Airport Planning/Design/ Engineering	Planning and designing an airport conforming to FAA Standards. Analysis of a current Airport Master Plan and as- built drawings, collection of operational data, activity forecasting and demand- capacity analysis, GIS, etc	Project Manager	P.E. or Certified Planner		P.E.	Must submit projects conform 'Airport Design' standards and and provide the following for e (Air Carrier or General Aviation completion dates, and contrac which has critical review points knowledge of FAA Runway Safe for CFR Part 130.303

#### Additional Requirements

conforming to FAA Advisory Circular 150/5070-7 'The ess' that are related to Airport System Planning, as elating to Advisory Circular 150-5070-6B 'Airport e following for each project/study: project name and rts in system, Owner reference/evaluation, ion dates, and contract value. Must show preparation critical review points for both State and FAA input.

hing to both FAA Advisory Circular 150/5300-13 I Advisory Circular 150-5070-6B 'Airport Master Plans' each project: project name and owner, type of airport n), owner reference/evaluation, commencement and ct value. Must show preparation of a scope of work ts for Local, State and FAA input. Must show fety Publications and had initial or recurrent training

9	Airfield Pavement Management System	Management of Airport Concrete and Asphalt Pavements utilizing Pavement Condition Index (PCI) Surveys and Software. Analysis of current/previous as-built drawings and specifications, collection of inspection data utilizing a PCI survey procedure to objectively determine the functional and structural condition of a pavement.	Project Manager	P.E.	P.E.	Must show that firm is familia Pavement Design, PCI Survey PCI Survey projects completed Army Corp., or AASHTO stands project name and owner, pave commencement and completi approach to PCI Survey Proced methods and recording distres reports and management of a compliance. Must submit list knowledge of FAA Runway Sat for CFR Part 130.303.
17	Aviation Economic Impact	Examine and determine the economic impact of commercial and general aviation airports, as well as aviation activities in general, both on the statewide, regional and local/county levels. Analyze any previous Aviation Economic Impact studies, whether on a statewide, regional or local/county level, collect data affecting the economic impact of public airports from airport related business and tenants, collect and analyze economic data from individuals and businesses who utilize the airport by accepted means and determine the total economic impact and present data in an effective format.	Economist or Certified Planner	Certified Planner	Certified Planning	Must show that firm is familia material dealing with Econom projects for Economic Impact following for each project: pro study, Owner reference/ evalu contract value. Must submit a review points for both State a

ar with all FAA Advisory Circulars related to Airport Procedures (ASTM D5340-98). Must submit three (3) ed within the last five (5) years conforming to FAA, US dards and provide the following for each project: vement thickness/type, owner reference/evaluation, tion dates, and contract value. Must provide written edure including number of teams, visual inspection ess information (distress type, quantity and severity), airfield pavement surveys to ensure project t of equipment for field observations. Must show afety Publications and had initial or recurrent training

ar with all FAA Advisory Circulars that have relational nic Impacts of Airports and Aviation. Must submit t Studies greater than \$150,000 and provide the roject name and owner, number and type of airports in luation, commencement and completion dates, and a preparation of a scope of work which has critical and FAA input.

142	Airport Electrical/ NAVAID/Procedure Development	Airport Electronics and Navigational Aids (NAVAIDS), Airspace Obstacle Analysis and TERPS (Terminal Instrument Procedures) Analysis. Analyze requirements for locating and siting, on an individual airports basis, ADS-B, VORs, Localizers, Glideslopes, AWOS, ASOS, ATIS, RCO and GCO, and development of IAP (Instrument Approach Procedures) based upon proposed installation of NAVAIDS.	Project Engineer	P.E. and Licensed Electrical	P.E. and Licensed Electrical	Must submit three (3) Projects to FAA Advisory Circular 150/5 Advisory Circular in the 150/5 Electronics and Navigational A Instrument Procedures (TERPS for each project: project name Owner reference/evaluation, value. Must provide written a and IAP development projects equipment list for field observ Must show knowledge of FAA recurrent training for CFR Part
7	Air Service Studies	Examine and determine the status of scheduled commercial air service upon an airport and it's ground service area and project impacts of improved and/or new service destination markets, economic impact of improved or new scheduled service, on airports , as well as aviation activities in general, both on the statewide, regional and local/county levels. Analyze any previous Air Service Impact studies, whether on a statewide, regional or local/county level, collect data showing the impacts in utilization of improved or new service that was implemented by a scheduled air carrier, collect and analyze economic data from individuals and businesses who utilize the air service by accepted and present data in an effective format.	Economist or Certified Planner	Economist or Certified Planner	Economist or Certified Planning	Must be familiar with the dyn Industry, the USDOT/OST Offi Reports that have relational n Service. Must submit recent A for each project: project name Owner reference/ evaluation, value.

ts completed within the last five (5) years conforming (5300 -13, 'Airport Design' standards and all FAA 5340 and 150/5345-series that are related to Airport Aids, designed utilizing FAA Airways Terminal (5) methods and practices, and provide the following e and owner, number/type of navigational aids, commencement and completion dates, and contract approach to management of NAVAIDS installations s to ensure project compliance. Must submit vations and obstruction identification and analysis. A Runway Safety Publications and had initial or rt 130.303.

namics and economics of the Commercial Air Service ice of Aviation Analysis, FAA Advisory Circulars and material dealing with Impacts of Commercial Air Air Service Impact Studies and provide the following e and owner, number and type of airports in study,

, commencement and completion dates, and contract

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4	Air Cargo Studies	Examine and determine the status of air cargo service upon an airport and it's ground service area and project impacts of improved and/or new air cargo service destination markets, economic impact of improved or new air cargo service on airports , as well as aviation activities in general, both on the statewide, regional and local/county levels. Analyze any previous Air Cargo Impact studies, whether on a statewide, regional or local/county level, collect data showing the impacts in utilization of improved or new service that was implemented by an air cargo carrier, collect and analyze economic data from individuals and businesses who utilize the air cargo service by accepted and present data in an effective format.	Economist or Certified Planner	Economist or Certified Planner	Economist or Certified Planning	Must be familiar with the dyn Industry, the USDOT/OST Offic Reports that have relational m Must submit recent Air Cargo each project: project name an Owner reference/ evaluation, value.
74	Aviation Flight Operations Management	Serves as Chief Pilot in a supervisory and administrative position managing and coordinating the flight operations and maintenance of an aviation department. Supervise, plan, direct, review and evaluate the work of subordinates. Responsible for developing flight schedules. Normally flies both helicopters and fixed wing aircraft. Review and authorize changes to the flight schedule, develop and make changes to methods, procedures, operations, training and maintenance, and establish policy and procedures.				Must have thorough knowled State Statutes governing the of from high school and a minim type of aircraft and/or type of experience. Certification as a and/or rotorcraft, and possess required are ratings in multi-e designated. Good flying safet last 10 years. No FAA incident military flight evaluations. Mu wing aircraft.

namics and economics of the Air Cargo Service fice of Aviation Analysis, FAA Advisory Circulars and material dealing with Impacts of Air Cargo Service. to Service Impact Studies and provide the following for nd owner, number and type of airports in study, a, commencement and completion dates, and contract

Ige of the FAA and FCC rules and regulations, and operation and maintenance of aircraft. Graduation num of 2,000 hours of flight time in a closely related f mission, along with a minimum of six years of related a FAA commercial or air transport pilot in airlines siston of an FAA Class II Medical Certificate. Also engine (land), instrument flying and others as ty record, no reportable incidences or accidents in the nees or violations in the last 10 years. No failed FAA or fust have single and multi-engine fixed and /or rotary

71	Aviation Executive Pilots (Captains & F.O.)	Pilot single or twin engine, fixed and/or rotary wing aircraft, in a variety of mission flights including point to point passenger flights, photogrammetry, and occasional search and rescue. Conduct pre-flight and post-flight inspections of aircraft and note all discrepancies in a maintenance log, and maintain all other necessary logs and reports related to their flights. Work includes planning flights considering weather, navigational aids, routing, altitudes, alternative routes and destinations, loading and weight distribution, fuel requirements, and the filing of IFR flight pans as necessary. Perform piloting assignments as pilot in command and does not normally have any direct supervision available. Operation manual details the rules and regulations of procedures, conduct, training, flight operations, flight crew coordination and operational limitations of equipment.			Must have thorough knowledg State Statutes governing the o from high school and a minimi- type of aircraft and/or type of experience. Certification as a and/or rotorcraft, and possess required are ratings in multi-e designated. Good flying safety last 10 years. No FAA incidend military flight evaluations. Mu wing aircraft.
8	Aircraft Maintenance	Aircraft mechanic for fixed wing and/or rotary aircraft. Work involves the inspection, maintenance, modification, and repair of airframes, power plants and related systems for fixed wing and/or rotary aircraft. Expected to independently perform routine work, research maintenance and service manuals and complete all necessary repair/inspection reports and entries.			Must have thorough knowled State Statutes governing the o from an FAA approved aviatio aircraft inspection, maintenan three years of related experies experience. Possession of a va knowledge of the tools, equip maintenance and repair of airc regulations concerning aircraft technical manuals and trouble Good communication with oth awareness will be maintained incidences or accidents in the maintenance repair and inspe

Ige of the FAA and FCC rules and regulations, and operation and maintenance of aircraft. Graduation hum of 1,500 hours of flight time in a closely related f mission, along with a minimum of six years of related FAA commercial or air transport pilot in airlines sion of an FAA Class II Medical Certificate. Also engine (land), instrument flying and others as ty record, no reportable incidences or accidents in the lices or violations in the last 10 years. No failed FAA or ust have single and multi-engine fixed and /or rotary

lge of the FAA and FCC rules and regulations, and operation and maintenance of aircraft. Graduation on maintenance school and one year of experience in nce and repair; or graduation from high school and ence; or an equivalent combination of training and alid FAA Airframe and Power plant license. Working oment and methods used in the inspection, rcraft. Working knowledge of FAA rules and ft inspection and repair. Ability to read and interpret eshoot technical problems and complete repairs. hers to ensure safe operations and good situational d during all maintenance procedures. No reportable e last 10 years. FAA rules and regulations require most ection jobs, be certified that the mechanic's work is in

						compliance with these rules alterations or inspections, th Certification) authorized by t years.
73	Flight Operations/Training	Trained to fly and fix the division's aircraft. Self-study and attend certified vendors of semi-annual and annual training. Fly and maintain single and multi-engine fixed and /or rotary wing aircraft.				Certification as a FAA comme Also required are ratings in n designated. Possession of a attend training and pass the or rotary wing aircraft. Good accidents in the last 10 years
20	Avionics System Development	NextGen Technologies including Ground Stations and Airborne Electronic Systems for Aircraft Communication and Navigation. Development of Automatic Dependent Surveillance-Broadcast (ADS-B) and other NextGen Technologies. Provide written approach to management of airfield projects to ensure project compliance.	Project Engineer	P.E.	P.E., Electronics or Scientific	Must submit an key personne (both ground based and airbo Project(s) in the National Airs and Reform Act of 2012" and to NextGen and ADS-B develo project name and owner, nur reference/evaluation, comm If airport airside access is nee Publications and had initial o whether firm has defaulted o last 10 years, whether firm h work, and must provide sure equipment for development
12	Airspace Analysis	Development of Airspace Analysis/ Classification Studies. Analyze existing and proposed Airspace Classifications (Class A through Class G), requirements for locating and siting, on an individual airports basis. Provide written approach to management of Airspace Study to ensure project compliance.	Project Engineer or Certified Planner	P.E. or Certified Planner	P.E. or Certified Planner	Must submit recent Studies/ (FAR) Part 91, 'General Opera A, B, C, D, and E Airspace Are 'Special Use Airspace', Part 7 Advisory Circulars, Reports a FAA Airways Terminal Instru provide the following for eac navigational aids, Owner refe dates, and contract value. If knowledge of FAA Runway Sa for CFR Part 130.303. Must so

and regulations. On major overhauls, repairs, and ne work must reviewed and certified by an Inspector (IA the FAA. No FAA incidences or violations in the last 10

ercial or air transport pilot in airlines and/or rotorcraft. multi-engine (land), instrument flying and others as valid FAA Airframe and Power plant license. Ability to course syllabus for single and multi-engine fixed and/ d flying safety record, no reportable incidences or s. No FAA incidences or violations in the last 10 years.

el responsible for development of NextGen Equipment orne), involvement in FAA NextGen Demonstration space System (NAS), familiar with "FAA Modernization d all NPRM (Notice of Proposed Rule Making) relating opment, and provide the following for each project: mber/type of NextGen navigational aids, Owner encement and completion dates, and contract value. cessary, must show knowledge of FAA Runway Safety or recurrent training for CFR Part 130.303. Must state or failed to complete contractual obligations with the has ever been terminated due to the quality of their ety information (name, rating and limits). Must submit and testing of NextGen Navigational Aids.

(Projects conforming to Federal Aviation Regulation rating and Flight Rules', Parts 71, 'Designation of Class eas; Airways; Routes; and Reporting Points', Part 73, 77, 'Objects affecting navigable airspace' and all FAA and Orders related to Airport Airspace, knowledge of ument Procedures (TERPS) methods and practices, and ch project: project name and owner, number/type of erence/evaluation, commencement and completion f airport airside access is necessary, must show bafety Publications and had initial or recurrent training submit surveying tools/equipment for field n identification and analysis if necessary.

19	Airport Safety Analysis/ Inspection	Perform Safety Inspection of Airports. Perform FAA Airport Master Record Inspection per FAA Office of Aeronautical Information Services, FAA Order 5010.4, 'Airport Safety Data Program', reporting findings and data in an effective format to the NFDC (National Flight Data Center). Provide written approach to airport inspection procedure to ensure project compliance.	Trained Airport Safety Data Inspector			Must be familiar with FAA Off 5010.4, 'Airport Safety Data P Design' and all Orders/Report FAA mandated training semin and provide a list of previous S project name and owner, num evaluation, commencement a knowledgeable of FAA Runwa training for CFR Part 130.303. complete contractual obligation terminated due to the quality (name, rating and limits). Mu
430	Airport Pavement Design	Design of Airport Concrete and Asphalt Pavements. Rigid and Flexible Pavement Sub-base Courses, Treated Subgrade, Sub-base Courses, Base Course, Treated Base Courses on active airfield runway, taxiway and apron. Provide written approach to design and management of airfield paving projects to ensure project compliance.	Project Engineer	P.E.	P.E.	Must be familiar with all FAA A Airport Pavement Design. Mu FAA, US Army Corp or AASHTO following for each project: pro reference/evaluation, comme If airport airside access is nece Publications and had initial or
431	Airport Construction Admin/ Inspection	Inspection of Airport Construction, Supervision of work performed by all Contractors. Perform Construction Administration and Inspection of work performed by all Contractors on a project according to FAA, AASHTO, Codes and Applicable Industry Standards, reporting findings and data in an effective format to comply with Project Specifications and Compliance. Provide written approach to airport construction admin and inspection procedures to ensure project compliance.	Project Engineer	P.E.	P.E.	Must be familiar with FAA Adv Construction', Advisory Circula Construction of Airports', and Bulletins related to airport con Airport Construction Admin/Ir number of inspections perforr and completion dates, and con Publications and had initial or whether firm has defaulted or last 10 years, whether firm ha work, and must provide surety surveying and testing equipme

fice of Aeronautical Information Services, FAA Order Program', Advisory Circular 150/5300-13, 'Airport ts related to airport inspection, successful graduate of har in FAA Form 5010-1 Airport Inspection Procedures, 5010 Inspections and the following for each airport: mber of inspections performed, Owner reference/ and completion dates, and contract value. Must be ay Safety Publications and had initial or recurrent Must state whether firm has defaulted or failed to ions with the last 10 years, whether firm has ever been of their work, and must provide surety information last submit surveying equipment for field observations.

Advisory Circulars, Reports and Orders related to ust submit three (3) Design Projects conforming to O standards greater than \$500,000 and provide the oject name and owner, pavement thickness, Owner encement and completion dates, and contract value. essary, knowledgeable of FAA Runway Safety r recurrent training for CFR Part 130.303.

visory Circular 150/5370-12A, 'Quality Control of lar 150/5370-10F(Draft), 'Standards for Specifying I all FAA Orders/Reports/Engineering Guidance nstruction inspection, and the following for each nspection performed: project name and owner, med, Owner reference/evaluation, commencement intract value. Knowledge of FAA Runway Safety recurrent training for CFR Part 130.303. Must state r failed to complete contractual obligations with the as ever been terminated due to the quality of their ry information (name, rating and limits). Must submit tent for field observations.

432	Airport Approach/Obstruction Surveying	Identification and Analysis of obstruction to Aerial Navigation in Airport Approaches. Perform Identification/Analysis Survey of Critical Obstructions in Airport Approaches. Provide written approach to management of Obstruction Study to ensure project compliance.	Project Engineer/ Land Surveyor	P.E. and/or P.L.S.		P.E. and/or P.L.S.	Must submit three (3) Studies identifying Airport Approach of Regulation (FAR) Part 77, 'Obj Circular 50/5300-13, 'Airport approach obstruction inspect and the following for each air type of approach, number/typ commencement and complet Runway Safety Publications an 130.303. Must state whether obligations with the last 10 yet the quality of their work, and limits). Must submit surveyin obstruction identification and
490	Aviation Education & Outreach Services	Program management, education and outreach, public involvement, communications, marketing, etc.	Communications specialist, Training Specialist	BS or BA in related field	5 years		Must have experience and ex and bachelor's degree in relat
491	General Division Program Support	Support for Airport Project Managers, Engineers, etc.	Project Engineer, Certified Planner	BS or BA in related field	5 years		Must have level of experience position being supported. Pro is required.
492	Division Grants Administration Support	Support for grants administration staff including production of FAA subgrants to airport sponsors, data input and management, and general grant program.	Grants administrator		5 years		Must have level of experience position being supported. Ma limited to fiscal administrative federal and state, grant writin federal and state agencies to SAP financial functions, etc.
493	Special Studies for Aviation	Value engineering, policy analysis, data analysis and management, web hosting, state and federal compliance studies, airport land acquisition, infrastructure evaluations, independent fee estimates, feasibility studies, etc.	Preferred Project Manager, P.E., or Certified Planner	BS or BA in related field			Must have adequate or requin of work needed in the special that is relevant or similar.

s/Projects completed within the last five (5) years Obstructions conforming to Federal Aviation jects Affecting Navigable Airspace' and FAA Advisory Design' and all FAA Orders/Reports related to airport cion, and provide a list of previous obstruction surveys rport approach surveyed: project name and owner, pe of navigational aids, Owner reference/evaluation, tion dates, and contract value. Knowledge of FAA and had initial or recurrent training for CFR Part r firm has defaulted or failed to complete contractual ears, whether firm has ever been terminated due to must provide surety information (name, rating and ng tools/equipment for field observations and d analysis.

pertise in public involvement, marketing, education ted field.

e/education combination that is appropriate for the pject management experience and aviation experience

e/education combination that is appropriate for the ain responsibilities of this position, including but not e experience related to grant funding programs, both ng, contract monitoring, fiscal approvals, working with provide timely responses to aviation stakeholders,

red education, licensure, or certification for the type I studies category and experience with special study

550	Unmanned Aircraft System (UAS) Program Support	Support for UAS Program Office, including UAS operational management, program development and implementation, federal and state UAS policy analysis, UAS technology research, airspace integration, etc.	Project Manager, Program Manager	BS or BA in related field	3-5 years	Must show firm has experient management, has strong und regulations and laws, UAS tec state, and local government a stakeholder. The firm must s local governments in the deve development and implement management.
551	Unmanned Aircraft System (UAS) Operator	Pilot multi-rotor and/or fixed wing UAS, in a variety of mission, UAS operations including photography, video photography, photogrammetry, and occasional search and rescue. Conduct pre-flight and post-flight inspections of UAS and note all discrepancies in a maintenance log, and maintain all other necessary logs and reports related to their UAS flights. Work includes planning UAS operations considering weather, airspace authorizations, night operations, altitudes, communicating with visual observer(s), and the filing of NOTAMS as necessary. Perform piloting assignments as pilot in command and does not normally have any direct supervision available. Operation manual details the rules and regulations of procedures, conduct, training, flight operations, flight crew coordination and operational limitations of equipment.			1-3 years	Must show proof of 20 hours government operations, FAA Commercial or Government U waivers/authorizations for Cla liability insurance for UAS ope implemented, and routine ma proof of no FAA violations in t

tation of UAS training programs, and UAS for the state of UAS and UAS are state of UAS for the state of UAS for th

s of pilot-on-command for UAS commercial or Remote Pilot Certificate with Small UAS rating, NC UAS operator permit, ability to obtain airspace lass Surface E, D, C, and B airspace. Must have general perations, standardized training protocols naintenance schedule for utilized UAS. Must show the last 5 years.

552	Unmanned Aircraft System	Provide LIAS operational support to the	BS or BA in	3-5 years	Must show firm has experience
552	(UAS) Operations	NCDOT, including providing qualified	related field	5 5 years	UAS operational experiences
	Management	pilots, operate both multi-rotor and			inspection, have thorough kno
		fixed wing UAS, responsible for			Statutes governing the operat
		developing operations schedules,			and routine maintenance sche
		coordinating training, obtaining			airspace waivers/authorizatio
		waivers/authorizations, and data			submit a list of UAS operator of
		management.			The firm must show it has no

the conducting civil UAS operations within the NAS, should include photogrammetry and infrastructure nowledge of the FAA rules and regulations, and State ation, standardized training protocols implemented, nedule for utilized UAS, and history of obtaining ons for Class Surface E, D, C, and B airspace. Must qualifications and equipment to be used in the field. FAA violations in the last 5 years.

# **BICYCLE & PEDESTRIAN**

Ed Johnson (919) 707-2604

### **BICYCLE & PEDESTRIAN**

erjohnson2@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
315	Municipal & Regional Planning Studies						
316	Multi-Use Trail Design, Survey & Layout						
318	Bicycle Map Preparation						
132	Landscape & Streetscape Design						



# **TURNPIKE AUTHORITY**

Dennis Jernigan

(919) 707-2715

### **OPERATIONS & MAINTENANCE**

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
320	General O&M Knowledge						
321	Level 1 – Preliminary O&M Plan						
322	Level 2 – Final O&M Plan						
323	Level 3 – Investment Grade O&M Services						
324	Other O&M Services						

Additional Requirements	

**TURNPIKE AUTHORITY** 

Dennis Jernigan

(919) 707-2715

### GENERAL TOLL KNOWLEDGE

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Α
365	Infrastructure/Interface & Coordination						
366	Toll System Planning & Design						
367	Toll Standards Development						
368	Toll System RFP Development						
369	Toll Operation Marketing Strategy						
370	Toll Collection Facilities & Equipment						

Additional Requirements	

# **TURNPIKE AUTHORITY**

# Dennis Jernigan (919) 707-2715

### **OTHER TOLL SERVICES**

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
371	Traffic and Revenue Forecasts						
372	HOT Lane Studies						

#### Additional Requirements

### PHOTOGRAMMETRY

### PHOTOGRAMMETRY

# Rob Allen (919) 707-7094

### roballen@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
157	Photogrammetric Services	The work consists of photogrammetrically compiling planimetric, topographic, and DTM data; field classifying planimetric features; collecting and mapping cadastral data from existing county tax bases; merging the compiled photogrammetric data with field data such as planimetric classification, cadastral data, and utility data; producing planimetric maps, topographic maps, base plan sheets, digital orthophotography, and DTM data as specified in the NCDOT Photogrammetry Unit manuals; and delivering the planimetric maps, topographic maps, base plan sheets, digital orthophotography, and DTM data in both digital and hardcopy formats.	Land Surveyor	P.L.S.		P.L.S.	Must submit examples of work Microstation V8 DGN format; I format; Orthophoto in TIF and and base plan sheet digital dat conform to the NCDOT Photog specifications; DTM data shall conform to the NCDOT Photog specifications. Digital orthoph or TIF format with associated w photogrammetric services, inc cadastral mapping and field cla software in use at the office the location of the office being pre

#### Additional Requirements

rk of that include: Planimetric mapping file in a Digital Terrain Model (DTM) in Microstation V8 DGN d SID formats with associated world files. All mapping ata shall be delivered in MicroStation design files that agrammetry Unit level structure and symbology I be delivered in MicroStation 3-D design files that agrammetry level structure and symbology hotography shall be delivered in either MrSID format world files. The firm must be capable of providing full cluding aerotriangulation, DTMs, digital data delivery, classification. Must submit a list of the hardware and that will perform these services. Must include the requalified.

2	Aerial Imagery Services	The work consists of acquiring high-	Land Surveyor	P.L.S.		P.L.S.	Must submit a list of the hard
		resolution metric aerial imagery at					and software (flight planning,
		various altitudes above mean ground					and list of sub-consultants you
		level (AMGL) ranging from 300 feet to					feet AMGL or higher, the met
		15,000 feet.					digital frame camera with a G
							(GPS/IMU) to provide object s
							than 1500 feet AMGL) aerial i
							shall be either a large format
							format metric film camera. Ir
							provide forward motion comp
							requirements for low altitude
							GPS/IMU work listed above s
							formatted electronic files.
					1		

## **Thomas Riddick**

# (919) 707-4560

### ARCHITECTURE

tlriddick@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
332	Building Design						
333	Building Construction Administration						
334	Advance Planning						

Iware (planes, cameras, GPS/IMU equipment, etc.) , post processing, etc.) in use; the base of operation; u propose using. For aerial imagery missions at 1500 cric aerial imagery system shall be a large format Global Positioning System/Inertial Measurement Unit space exterior orientation data. For low altitude (less imagery missions, the metric aerial imagery system or medium format digital frame camera, or a 9 inch n all cases, the metric aerial photographic system shall pensation and be able to meet the accuracy e imagery (+/- 0.05' at 300 feet AMGL). All data for the

shall be prepared in both hardcopy and ASCII

#### Additional Requirements

335	Programming Studies		
336	Roof Design		
337	Estimating		

# Thomas Riddick (919) 707-4560

SITE CIVIL ENGINEERING

tlriddick@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	А
338	Building Site Design						

#### Additional Requirements

### PLUMBING, MECHANICAL & ELECTRICAL ENGINEERING

tl	rid	di	ck	@	ncd	ot.	gov
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Thomas Riddick

(919) 707-4560

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
346	Plumbing Design						
347	Mechanical Systems Design						
348	Commissioning						
349	Life Cycle Cost Analysis						
350	Building Envelope Design						
351	Electrical Engineering Design						
352	Lighting Control Design						
353	Fire Protection/Fire Alarm System Design						
354	HVAC						
355	Geothermal Design						
356	Energy Modeling						

Additional Requirements	

### STRUCTURAL ENGINEERING

# Thomas Riddick

(919) 707-4560

tlriddick@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
357	Building Structural Design						
358	Building Foundation Design						
359	Special Inspections						



### ARCHITECTURE

# Thomas Riddick

(919) 707-4560

tlriddick@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
360	Topographic Surveying						
361	Boundary Surveying						
362	Easement Surveying						



### STATE ROAD MAINTENANCE UNIT

## Josh Kellen (919) 835-8491

#### **DISASTER MONITORING**

### jkellen@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
398	FEMA Compliance Monitoring & Auditing	The work consists of coordinating with NCDOT personnel to ensure that FEMA rules and regulations for monitoring operations are being following. In addition, performs audits to all collected data to validate that FEMA rules and regulations are being adhered to.	Project Manager and Accountant				Must be familiar with FEMA Pu debris management practices. Must be willing to travel statev NCDOT field personnel.
399	Disaster Recovery Planning	The work consists coordinating with NCDOT Disaster Recovery and field personnel to develop and implement disaster recovery plans during federally declared disasters.	Project Manager				Must be familiar with FEMA Pu debris management practices. operations is required. Please statewide to effectively plan w
400	Debris Removal Monitoring	The work consists of observing NCDOT debris removal contractors, documenting all aspects of the debris operation, and enforcing any/all FEMA rules and regulations to ensure maximum reimbursement for NCDOT.	Project Manager and Technician(s)				Must be familiar with FEMA Pu FEMA debris management prace Debris shall be tracked from its accordingly. Therefore, one de removal crew and a monitor(s) sites. The Project Manager sha and communicate any observa Transportation for all technicia supplied by the monitoring firm the debris removal operation, trucks using NCDOT's load ticke but will need to be reviewed p

#### Additional Requirements

ublic Assistance rules and regulations as well as FEMA Please list all prior experience.

wide to discuss debris removal operations with

ublic Assistance rules and regulations as well as FEMA Also, knowledge of NCDOT disaster recovery list all prior experience. Must be willing to travel with NCDOT field personnel.

ublic Assistance Rules and regulations as well as actices. Please list prior experience.

is origin to its final resting place and documented ebris monitor will be required for each debris ) will be required at the designated debris waste all oversee technicians conducting the monitoring ations/issues/concerns to NCDOT field personnel. ans conducting monitoring operations shall be m. Monitors will be required to capture pictures of provide GPS coordinates, and track loads of every/all set method. Other methods of tracking are welcomed prior to use in the field.

401	Disaster Recovery Data & Accounting	The work consists of compiling and managing all data captured in the debris removal operations. This position shall also be responsible for the final submission of all data for the completed disaster debris removal operation.	Accountant		Must be familiar with the FEN FEMA debris management pra personnel to match all data re
402	Truck Verification/ Certification	The work consists of verifying and certifying all trucks used in the debris removal operation by NCDOT's debris removal contractor.	Project Manager and/or Technician(s)		Must be familiar with FEMA P debris management practices
403	Load Ticket Certification	The work consists of combining load ticket information and invoices supplied by NCDOT's debris removal contractor and verifying that all load tickets match the submitted invoices.	Technician or Accountant		Must be familiar with FEMA P debris management practices

MA Public Assistance rules and regulation as well as ractices. Must work with NCDOT disaster recovery ecords. Please list all prior experience.

Public Assistance rules and regulations as well as FEMA s. Please list all prior experience.

Public Assistance rules and regulations as well as FEMA s. Please list all prior experience.

## PUBLIC TRANSPORTATION DIVISION

### TRANSIT SYSTEM PLANNING SERVICES

## Blair Chambers 919-707-4693

#### tbchambers@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
410	Community Connectivity Plans (formally Community Transportation Service Plans)	To identify, evaluate, develop, recommend and implement strategies that provide planning elements for meaningful mobility options for the general public and targeted populations by allowing passengers to travel where and when they want and need to go.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience inclue Systems, regional and single co
411	Transit System Consolidation Studies	Develop recommendations and alternatives for consolidation of community transit systems.	Minimum of 2 primary staff personnel		5		
412	Transit Facility Feasibility Studies for Transit Support Structures	Determine if transit facilities are viable and practical for transit system.	Minimum of 2 primary staff personnel		5		
413	Transit Support Feasibility and Implementation Studies	Develop supporting information necessary to guide overall system implementation and supportive policy action.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience inclue Systems, regional and single co
414	Other Special Transit Studies	Provide assistance on special transit planning related needs.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience inclue Systems, regional and single co
419	Transit Service Productivity Review and Analysis	Develop productivity trends and outline possible strategies for transit.	Minimum of 2 primary staff personnel		5		

#### Additional Requirements

#### sit experience and qualifications.

udes human service agency, Community Transit county rural systems, demand responsive, etc.)

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udes human service agency, Community Transit county rural systems, demand responsive, etc.)

### sit experience and qualifications.

udes human service agency, Community Transit county rural systems, demand responsive, etc.)

498	Public involvement in the transit/transportation planning process	Provide public mediation and facilitation methods for the development of public transportation planning projects.	Minimum of 2 primary staff personnel	5	
499	Marketing, publications and graphics assistance	Assist in preparing and project managing publications for Public Transportation Divisions promotional and study deliverable material.	Minimum of 2 primary staff personnel	5	
500	Marketing research	Gather and analyze travel behavior data on transit systems and research market conditions for modeling and planning.	Minimum of 2 primary staff personnel	5	
501	Multimodal facilities planning	Development and implementation of major transportation capital improvements active transportation improvements and related project work including project planning, project design administration, contract administration, and project and program development and implementation.	Minimum of 2 primary staff personnel	5	
502	Transportation Demand Management program management	Assist in the management of statewide TDM program focusing on changing or reducing travel demand.	Minimum of 2 primary staff personnel	5	

# PUBLIC TRANSPORTATION DIVISION

### 2. TRANSIT SYSTEM FEDERAL AND STATE COMPLIANCE SERVICES

NCE SERVICES		tbchambers@ncdot.gov					

**Blair Chambers** 

919-707-4693

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
417	Conduct Compliance Reviews for Transit System	Conduct discretionary compliance reviews of grant recipients and sub recipients to determine whether they are honoring their commitments, as represented by certification, to comply with the requirements of FTA and State funded transit programs.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural tran (Rural transit experience inclu Systems, regional and single o
503	Conduct drug and alcohol review program	Provide statewide DAMIS report and conduct discretionary drug and alcohol reviews of grant recipients and sub recipients to determine whether they are honoring their commitments, as represented by certification, to comply with the requirements of FTA and State funded transit programs.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trar (Rural transit experience incl Systems, regional and single
504	Conduct safety management system (SMS) review program	Conduct discretionary SMS reviews of grant recipients and sub recipients to determine whether they are honoring their commitments, as represented by certification, to comply with the requirements of FTA and State funded transit programs.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trar (Rural transit experience incl Systems, regional and single

#### **Additional Requirements**

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nsit experience and qualifications.

ludes human service agency, Community Transit county rural systems, demand responsive, etc.)

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ludes human service agency, Community Transit county rural systems, demand responsive, etc.)
# PUBLIC TRANSPORTATION DIVISION

### 3. TRANSIT SYSTEM

CONSTRUCTION ADMINISTRATION SERIVCES	
CONSTRUCTION ADMINISTRATION SERVICES	)

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
505	Transit facility construction project oversight, administration, inspection, management and/or monitoring	Provide oversight services for project construction of FTA funded new or renovated transit facilities.	Minimum of 2 primary staff personnel	PE or AIA	5	PE or AIA	
506	Small transit facility design services	Provide design services assistance in the development of a standardized administrative, operational and/or maintenance transit facility.	Minimum of 2 primary staff personnel	PE or AIA	5	PE or AIA	

tbchambers@ncdot.gov

**Blair Chambers** 919-707-4693

Additional Requirements

### PUBLIC TRANSPORTATION DIVISION

#### 4. TRANSIT SYSTEM TECHNICAL ASSISTANCE

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
424	Transit Program Funding Formula Allocation Analysis	Review and evaluate the current funding formula allocations.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience incluc Systems, regional and single co
425	State Management Plan Development and Update	Provide technical assistance on the update for FTA adoption.	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience incluc Systems, regional and single co
426	Program System Analysis	Operational and route studies to assist transit agencies in maximizing resources by determining efficient route patterns	Minimum of 2 primary staff personnel		5		
428	Vehicle Specification Preparation and Analysis	Provide innovative solutions and guidelines for fleet management challenges and utilization for transit systems.	Minimum of 2 primary staff personnel		5		
507	Vehicle statewide procurement/bid analysis and assistance	Provide assistance in the development of statewide vehicle procurement contracts.	Minimum of 2 primary staff personnel		5		
508	Performance efficiency and excellence guidebook	Building out Success Plans and managing quarterly reporting and Net Promoter Scoring	Minimum of 2 primary staff personnel		5		Firm demonstrates rural trans (Rural transit experience incluc Systems, regional and single co

#### tbchambers@ncdot.gov

Blair Chambers 919-707-4693

#### Additional Requirements

#### sit experience and qualifications.

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#### sit experience and qualifications.

des human service agency, Community Transit ounty rural systems, demand responsive, etc.)

#### sit experience and qualifications.

des human service agency, Community Transit ounty rural systems, demand responsive, etc.)

509	Quick response teams	Rapid rescue and recovery technical assistance for transit systems in need to include programming, reporting, project management, administration, operations and financial assistance.	Minimum of 2 primary staff personnel	5	Firm demonstrates rural tran (Rural transit experience inclu Systems, regional and single c
510	Fleet camera system assessments	Provide assessment and evaluation of the use and maintenance of fleet camera systems.	Minimum of 2 primary staff personnel	5	Firm demonstrates rural tran (Rural transit experience inclu Systems, regional and single o
511	Transit facility and equipment maintenance management program assistance	Provide community transit agencies with assistance and guidance on the appropriate facility maintenance as required by FTA.	Minimum of 2 primary staff personnel	5	
512	Grant writing and management	Provide assistance on effective grant design, development and program management on federal and state grant funding programs for transit systems.	Minimum of 2 primary staff personnel	5	
 513	Transit system coordination services	Coordination with urban providers, intercity bus carriers, transit providers in other states, health and human service organizations, and private non- profits such as community organizations, senior centers, faith- based organizations, and other similar organizations.	Minimum of 2 primary staff personnel	5	

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#### nsit experience and qualifications.

udes human service agency, Community Transit county rural systems, demand responsive, etc.)

### **CONTRACTUAL SERVICES UNIT**

#### **GOAL SETTING**

mbiedell@ncdot.gov
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Mickey Biedell

(919) 707-4803

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
435	Aspirational Goal Setting						Requirements will be listed in prequalified for this discipline

### **CONTRACTUAL SERVICES UNIT**

Mickey Biedell (919) 707-4803

**DISPARITY STUDY** 

mbiedell@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	
436	Disparity Study						Requirements will be listed in prequalified for this discipline

#### Additional Requirements

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#### Additional Requirements

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#### PORT SHIP TERMINAL FACILITY DESIGN

mark.blake@	<u>@ncports.com</u>
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Mark Blake (910) 251-5674

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registrati on Required	Minimum Years of Experience	Firm Registration Required	ļ.
445	Berth & Wharf Structures	Deepwater structures to serve ocean- going vessels, and support loads from cranes, on-dock rail, wheeled vehicles.	Marine / Structural Engineers	P.E.	5	P.E.	Must show substantial experie Preference is to have structura
446	Mooring & Breasting Structures & Equipment	Structures, product and equipment for mooring and breasting of ocean-going vessels	Marine / Structural Engineers	P.E.	5	P.E.	Must show substantial experie structures and equipment.
447	Dredging	Design of dredging work near Port berths. May include stability analyses and hydrographic surveying.	Hydraulic / Geotechnical Engineers	P.E.	5	P.E.	
448	Marine Terminal Design – Containers, Intermodal, Bulk & Break-Bulk Materials	Conceptual planning and design of marine facilities in the various transportation modes of container, intermodal, bulk and breakbulk. Bulk products may include liquid and dry bulk.	Civil / Structural Engineers Port Planner	P.E.	5	P.E.	Must show substantial experie terminals.

#### Additional Requirements

ience and knowledge of berth and wharf structures. ral engineers who are also certified divers.

ience and knowledge of mooring and breasting

ience and knowledge of planning and design of marine

### PORT CRANE MAINTENANCE

### mark.blake@ncports.com

(910) 251-5674

Mark Blake

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	P
449	Ship-to-Shore Container Crane Maintenance	Evaluation, assessment, repair and maintenance recommendations, and design of container cranes.	Civil / Structural / Electrical Engineers	P.E.	5	P.E.	Must show substantial experie ship-to-shore container cranes
450	Ship-to-Shore Gantry Crane Maintenance	Evaluation, assessment, repair and maintenance recommendations, and design of gantry cranes (rail-mounted cranes that rotate on a turntable).	Civil / Structural / Electrical Engineers	P.E.	5	P.E.	Must show substantial experie ship-to-shore gantry cranes.

## **PORT AUTHORITY**

#### PORT FACILITIES PAVEMENT MAINTENANCE

### Mark Blake (910) 251-5674

### mark.blake@ncports.com

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
451	Concrete Pavement Management for Ports	Assessment, evaluation, repair and design of concrete pavements specifically designed for the loadings of a deep water marine facility.	Civil Engineer	P.E.	5	P.E.	Must show experience and kno pavements at deep water mari pavements for airport runways

#### Additional Requirements

ience and knowledge of design and maintenance of es.

ience and knowledge of design and maintenance of

#### Additional Requirements

owledge of design and maintenance of concrete rine facilities. Experience and knowledge of concrete rs and taxiways will be considered.

452	Asphalt Pavement Management for Ports	Assessment, evaluation, repair and design of asphalt pavements specifically designed for the loadings of a Deepwater marine facility.	Civil Engineer	P.E.	5	P.E.	Must show experience and ki pavements at deep water ma pavements for airport runwa
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# Mark Blake (910) 251-5674

#### PORT FACILITIES ELECTRICAL SYSTEMS

#### mark.blake@ncports.com

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	Α
453	Distribution Systems for Low/Medium & High Voltage	Evaluation, assessment and design of distribution systems for a deepwater marine facility, including electrical supply to cranes, refrigerated containers, sheds and warehouses, and (potentially in future) rubber-tired or rail-mounted gantry crane sin the container yard.	Electrical Engineer	P.E.	5	P.E.	Must show experience and kno electrical distribution systems.
454	Lighting for Warehouse & Open Storage Cargo Areas	Evaluation, assessment and design of lighting systems for a deepwater marine facility, including sheds and warehouses, container yards, and general open storage areas.	Electrical Engineer	P.E.	5	P.E.	Must show experience and kno lighting systems.

knowledge of design and maintenance of asphalt arine facilities. Experience and knowledge of asphalt ays and taxiways will be considered.

#### Additional Requirements

nowledge of design and maintenance of industrial

nowledge of design and maintenance of industrial

#### **PORT SECURITY & SURVEILLANCE DESIGN**

Mark Blake (910) 251-5674

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	А
455	Security & Surveillance Design	Must possess a thorough knowledge of federally-mandated security features for seaports, and an understanding of their design and implementation.	Electrical / Security / Communication Engineers	P.E.	5	P.E.	Must show experience and kno surveillance systems.

### PORT AUTHORITY

# Mark Blake (910) 251-5674

#### PORT LONG RANGE PLANNING

#### mark.blake@ncports.com

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	P
456	Long Range Port Planning	Must possess a thorough knowledge of port industry, shipping and maritime trade, and the associated infrastructure requirements both on the Port and outside the Port (connecting to the Port) in order to assess and recommend guidance, policies, and projects that most effectively improve the logistics system for ocean-going freight.	Port planner	AICP	5		Must show substantial experie maritime trade.

#### Additional Requirements

nowledge of design and maintenance of security and

#### Additional Requirements

ience and knowledge of port industry, shipping and

### **HIGHWAY OPERATIONS**

# Camille Coombes (919) 835-8212

#### **OPERATIONS PROGRAM MANAGEMENT**

crcoombes@ncdot.gov

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
404	High Speed Data Collection and Processing	Collection of Pavement Condition and/or Roadside Inventory Information including, but not limited to: Pavement Imagery and Pavement Condition Evaluation, Right-of-Way Imagery, Pavement Profile and Rutting, Sign and Guardrail Inventory, and Pavement Inventory	Data Collection Technician, Data Manager and Data Analysis		4		Must submit references incluc agencies for which data has be
405	Quality Assurance for High Speed Data Collection	Validation (QA/QC) of pavement condition data collected and processed during High Speed Data Collection. Working in conjunction with NCDOT and data collection contractor to address and prevent errors.	Data Analyst		3		Must submit at least one (1) e other agencies. Must submit r
150	Pavement Condition Surveys	Pavement distress identification and completion of survey forms.	Senior Technician/ Engineer		2		Must show completion of NCE performing NCDOT surveys.
539	Pavement Management Best Practices	Engineering support for pavement related functionality in the Department's Asset Management System (AMS)	Team Leader	One (1) P.E.	5	P.E.	Demonstrate experience in bo expertise in pavement manage

#### Additional Requirements

ding contact information from three (3) or more een collected and description of work performed.

example of previous QA/QC efforts conducted for references with contact information.

DOT Training course and two (2) years of experience

oth Asset Management System functionality and gement best practices.

### **HIGHWAY OPERATIONS**

# Matthew Whitley

# (919) 835-8446

#### **OPERATIONS PROGRAM MANAGEMENT**

#### <u>mpwhitley@ncdot.gov</u>

Discipline Code	Discipline	Description of Work	Key Personnel Required	Employee Registration Required	Minimum Years of Experience	Firm Registration Required	A
540	Maintenance Management Best Practices	Engineering support for maintenance related functionality in the Department's Asset Management System (AMS)	Team Leader	One (1) P.E.	5	P.E.	Demonstrate experience in bot expertise in maintenance mana

dditional Requirements

th Asset Management System functionality and agement best practices.