

**GEOTECHNICAL CONSULTANT PREQUALIFICATION REQUIREMENTS  
(REVISED 7/1/09)**

Geotechnical consultants shall submit at least one key person per role for each discipline. For each unit, submit an organizational chart showing disciplines and key personnel. For each engineer and geologist per discipline, submit 2 examples of department of transportation or similar work sealed by each engineer or geologist and completed within the last 3 years. Submit the same for each geophysicist except examples are not required to be sealed. Also, submit documentation verifying the following requirements.

- Examples/equipment/experience meet the miscellaneous requirements for each discipline
- Key personnel meet the registration required, if applicable
- Key personnel meet the years of experience required
- Key personnel are permanent employees of the consultant
- Consultant meets the firm registration required, if applicable

Documentation should include project lists and descriptions including names and current contact information of clients and owners, resumes, references, certificates, experience descriptions and details, etc. If a consultant has previously completed work for the NCDOT Geotechnical Engineering Unit, this work will also be considered for prequalification. For questions about these prequalification requirements, contact Scott Hidden, P.E. or Mohammed Mulla, P.E. of the Geotechnical Engineering Unit at (919) 250-4088.

Unit	Discipline Text	Type of Work	Key Personnel Required	Registration Required*	Years of Experience Required	Firm Registration Required*	Miscellaneous Requirements
Geotechnical Engineering Services	Roadway Foundation Investigation & Design		Geotechnical Engineer	P.E.	5	P.E.	Equipment (in-house or outsourced) to access wooded and overgrown areas, obtain N and H size cores and drill 120 ft SPT borings and 200 ft mud borings
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
Geotechnical Engineering Services	Structure Foundation Investigation & Design	Shallow and Deep Foundations	Geotechnical Engineer	P.E.	5	P.E.	1 shallow or driven pile foundation example and 1 deep foundation example other than driven piles; both examples in accordance with <i>AASHTO LRFD Bridge Design Specifications</i> See miscellaneous requirements for Roadway Foundation Investigation & Design Discipline for equipment requirements
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
Geotechnical Engineering Services	Retaining Wall Investigation & Design	Post-bid Design Retaining Walls	Geotechnical Engineer	P.E.	5	P.E.	1 cut wall example and 1 fill wall example each with at least 1,500 ft <sup>2</sup> of wall face area See miscellaneous requirements for Roadway Foundation Investigation & Design Discipline for equipment requirements
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
Geotechnical Engineering Services	Pavement Design Investigation	Subgrade Design and Chemical Stabilization	Geotechnical Engineer	P.E.	5	P.E.	1 example for each type of work Equipment (in-house or outsourced) to complete 20 pavement cores per rig per day, obtain 4" to 6" dia. pavement cores from pavements up to 24" thick and drill pavement borings to a depth of 20 ft Experience with using dynamic cone penetrometers and recovering pavement cores using thin walled core barrels
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
Geotechnical Specialty Services	Ground Improvement Design	Vertical Drains, Dynamic Compaction, Stone Columns, Grouting, etc.	Geotechnical Engineer	P.E.	10	P.E.	Each example of a different type of work
Geotechnical Specialty Services	Cantilever Retaining Wall Design	Sheet Pile, Cantilever Concrete, Pile Panel and Soldier Pile Retaining Walls	Geotechnical Engineer	P.E.	5	P.E.	Each example of a different type of work
Geotechnical Specialty Services	Anchored Retaining Wall Design	Anchored (Tieback) and Soil Nail Retaining Walls	Geotechnical Engineer	P.E.	10	P.E.	1 example for each type of work
Geotechnical Specialty Services	Dam Investigation, Evaluation & Design		Geotechnical Engineer	P.E.	10	P.E.	See miscellaneous requirements for Roadway Foundation Investigation & Design Discipline for equipment requirements
			Project Geologist or Geological Engineer	L.G. or P.E.	5		
Geotechnical Specialty Services	Landslide Investigation, Evaluation & Mitigation Design		Geotechnical Engineer	P.E.	10	P.E.	See miscellaneous requirements for Roadway Foundation Investigation & Design Discipline for equipment requirements
			Project Geologist or Geological Engineer	L.G. or P.E.	5		

\* Registration as a Professional Engineer (P.E.) or Licensed Geologist (L.G.) in North Carolina is required.

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Geotechnical Specialty Services	Rock Slope Investigation, Evaluation & Design	Rock Slopes (steeper than 1:1) and Rockfall Mitigation including Horizontal Drains, Rock Bolts and Rockfall Fences, Netting, etc.	Geotechnical Engineer	P.E.	10	P.E.	1 rock slope design example and 1 rockfall mitigation example for slopes taller than 50 ft Successful completion of at least 1,000 ft of rock coring within the last 3 years and experience with a down hole camera See miscellaneous requirements for Roadway Foundation Investigation & Design Discipline for equipment requirements
			Project Geologist or Geological Engineer	L.G. or P.E.	10		
Geotechnical Specialty Services	Rock Blasting Evaluation & Design	Production, Cushion or Trim, Trench and Secondary Blasting and Pre-splitting	Geotechnical Engineer	P.E.	10	P.E.	At least 1 pre-splitting example
Geophysical Services	Geophysical Services	Ground Penetrating Radar (GPR), Seismic Refraction/Reflection, Resistivity, Electromagnetic (EM), etc.	Geophysicist	---	5	---	Each example of a different type of work
Geoenvironmental Services	Hazardous Waste Site Analysis		Geoenvironmental Geologist/Engineer	L.G. or P.E.	5	L.G. or P.E.	
Geoenvironmental Services	Underground Storage Tank Analysis		Geoenvironmental Geologist/Engineer	L.G. or P.E.	5	L.G. or P.E.	

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