

# N.C. DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING UNIT

Asheville, Garner, Greenville, Harrisburg, Raleigh

The Geotechnical Engineering Unit provides statewide geotechnical, geoenvironmental and geophysical services with in-house staff and our consultant partners. The following is a list of services broken down by phases of a project and maintenance activities.



## Prescoping and Document Stage (Start of Study through CP3 Preferred Alternate)

- Geoenvironmental Review of study area for prior property use "flags", known contaminants. Prescoping report and map with table, GIS or DGN files created.
- Geotechnical Review of study area for soft/unsuitable soils, high groundwater, unstable slopes, rock slopes, dams etc., for planning.

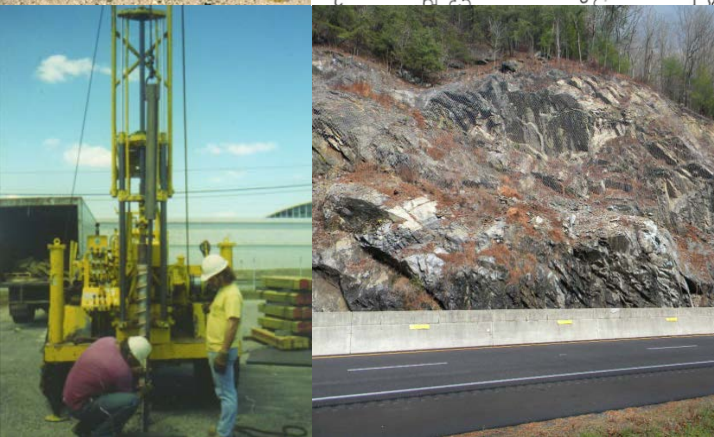
## Prior to Right of Way Plans Complete

- Geoenvironmental Phase I investigation after preferred alternate selected. Information is included in Hazardous Materials section of NEPA document.
- Subsurface investigations and construction recommendations for roadways, pavement subgrades, bridges, culverts, retaining walls, sound barriers, and special ditches.
- Slope recommendations and type of retaining wall determination for right of way limits



## Prior to Project Let

- Additional subsurface investigations and construction recommendations for roadways, pavement subgrades, bridges, culverts, retaining walls sound barriers and special ditches
- Geoenvironmental Phase II investigation report, DGN file update, meet with Right of Way to discuss sites.
- Geoenvironmental Right of Way Acquisition Recommendations.
- Vibration issues: Pre-Let planning and impact assessment, building surveys, monitoring, and damage claims.
- Infiltration Basin Studies.
- Acidic Rock investigations and recommendations.
- Pond surveys
- Removal or Containment of: fuel tanks, contaminated groundwater and soils, etc.



## During Construction

- Foundation Items such as Drilled Pier construction plans, Crosshole Sonic Logging (CSL) reports, Pile Driving Equipment data forms, Pile Driving Analyzer (PDA) reports, Signal and High Mount Foundation Design.
- Soft soil, undercut issues. Underdrain investigations.
- Review Blasting plans, monitor vibration from blasting and construction activities, investigate vibration damage claims.
- Review retaining wall plans and temporary shoring.
- Chemical stabilization rates determined and inspected.
- Reinforced Slopes, proposed slopes steeper than 2:1 in Piedmont/Mountains or 3:1 in Coastal Plain.
- Construction Support for unanticipated tanks, contaminated groundwater and soils.
- Settlement Monitoring. Instrumentation requirements data review and release of waiting periods.



## Maintenance, Encroachments and other Activities

- Review Encroachments such as bridges, culverts, retaining walls, shoring.
- Grouting – Approach slab leveling, void filling under slope protection, roadways, around pipes and culverts and behind retaining walls.
- Remove contaminated materials or tanks found during maintenance.
- Full Depth Reclamation of pavements (investigation and recommendations).
- Ground subsidence and sink hole repair plan.
- Slope failures/movement and rock fall remediation plans.
- Retaining wall repair plan.
- Investigate pavement cracks and depressions, provide recommendations.

For Pre-Let activities (investigation, design, review)

Divisions 1 - 6 send request to: [Geo\\_Pre-let\\_Div1-6@ncdot.gov](mailto:Geo_Pre-let_Div1-6@ncdot.gov)

Divisions 7 & 8 send request to: [Geo\\_Pre-let\\_Div7-8@ncdot.gov](mailto:Geo_Pre-let_Div7-8@ncdot.gov)

Divisions 9 - 14 send request to [Geo\\_Pre-let\\_Div9-14@ncdot.gov](mailto:Geo_Pre-let_Div9-14@ncdot.gov)

or contact: John Pilipchuk 919-707-6850 or [jpilipchuk@ncdot.gov](mailto:jpilipchuk@ncdot.gov)

For GeoEnvironmental and Geophysical Support

Contact: Cyrus Parker 919-707-6868 or [cfparker1@ncdot.gov](mailto:cfparker1@ncdot.gov)

For Construction or Maintenance Support in Divisions 1 – 7

Contact: Tom Santee 919-622-4710 x224 or [tgsantee@ncdot.gov](mailto:tgsantee@ncdot.gov)

For Construction or Maintenance Support in Divisions 8 – 14

Contact: Dean Hardister 704-455-8902 x207 or [dhardister@ncdot.gov](mailto:dhardister@ncdot.gov)

For Chemical Stabilization, Full Depth Reclamation

Contact: Kevin Sebold 919-707-6880 or [ksebold@ncdot.gov](mailto:ksebold@ncdot.gov)

For Grouting Needs

Contact: Mike Holmes 919-906-9900 or [mrholmes@ncdot.gov](mailto:mrholmes@ncdot.gov)

