

**Professional Services
Procurement Bulletin
2008-06**

**Statewide Geotechnical Engineering and
Laboratory Testing**

COUNTY	Statewide
ROUTE	N/A
DISTRICT	Statewide
ITEM NO	N/A
PROJECT DESCRIPTION	Statewide Geotechnical Engineering and Laboratory Testing.
PROJECT MANAGER	William Broyles, P.E.
USER DIVISION	Structural Design
APPROXIMATE FEE	\$1,250,000 upset limit (per contract)
PROJECT FUNDING	State and Federal Funding
PURPOSE AND NEED	<p>To provide geotechnical engineering and laboratory testing services to help expedite the completion of projects and effectively handle the workload on a statewide basis during FY 2009 and 2010.</p> <p>Some projects may require limited surveying and roadway design necessary to prepare a complete set of roadway plans for the design of landslide, rock-fall, and other small project corrections. A prequalified subconsultant may be used on these projects. Prequalification in the areas of Rural Roadway Design and Surveying and/or the name of subconsultants are not required to be identified in the Response to Announcement; these issues will be addressed at a later time.</p>
PROJECT LENGTH	The contract period is each firm receiving a one-year contract with the option of extending the period of one (1) year.
DBE REQUIREMENT	<p>Consultant team should include a DBE Participation Plan with their response to announcement. An additional 1 page may be added to the page 5-project approach in response to announcement to convey this plan. A maximum of 5 points will be considered in the evaluation factors to DBE Participation Plans.</p>

SPECIAL INSTRUCTIONS

Five (5) firms will be selected to provide these services. The contract period is each firm receiving a one-year contract with the option of extending the period for (1) year. The firms will be placed in a pool, randomly drawn and listed in consecutive order (1-5). This order will determine the numerical order in which projects will be offered to firms on a rotating basis. Firms will not be offered an additional project until the remaining firms on the list have been offered a project. If a firm declines to accept a project, or does not respond to an invitation to perform services for a project within 7 calendar days, documentation shall be placed in the project files and the next firm on the list shall be offered the project. If the next firm on the list declines, the project shall be offered to the next firm, etc.

The selected firms must be capable of performing a variety of geotechnical engineering and laboratory testing services. A few projects may require capability of performing surveying and rural roadway design.

All selected firms must have staffs who demonstrate proficiency in the field of geotechnical engineering and laboratory testing for transportation facilities on highway projects for KYTC and/or for federal, local or other state governmental agencies; experience on challenging projects and applicable continuing education are desirable. The firms must clearly demonstrate qualifications, experience, and capabilities in the areas below; they may not necessarily meet all these criteria, but the criteria do represent a benchmark.

Conventional Geotechnical Engineering Experience & Capabilities

Preparing geotechnical submittals in accordance with KYTC format, including: Boring, Laboratory Testing, and Engineering Analysis Plans; Cost Estimates and Invoices for Engineering and Laboratory Testing Services.

Preparing CADD drawings including roadway soil profile sheets, embankment and cut stability sheets, structure subsurface data sheets, geotechnical note sheets, and other related drawings in accordance with KYTC format, with the capability of preparing full size 22" x 36" and reduced size 11" x 17" CADD drawings.

Preparing and Interpreting Subsurface Logs in accordance with KYTC format.

Preparing Geotechnical Engineering Reports for roadways and structures in accordance with KYTC format.

Analyzing and/or designing embankments, soil and rock cuts, reinforced soil slopes, and landslide and rockfall corrections for transportation facilities.

SPECIAL INSTRUCTIONS—Cont'd

Performing geotechnical engineering analyses for shallow and deep foundations (e.g. driven piles and drilled shafts) and retaining structures (e.g. cantilever, mechanically stabilized earth, tieback, and soil nail walls) for transportation facilities.

Monitoring geotechnical construction of transportation facilities, including but not limited to: compaction of embankments and soil subgrades, excavation for roadway cuts and structure foundations, construction of retaining structures, and installation of deep foundations.

Interpreting data from geotechnical instrumentation installed in slopes, retaining walls, deep foundations and other related facilities.

Formal training and/or experience with Load and Resistance Factor Design (LRFD).

Seismic Geotechnical Engineering Experience & Capabilities

Performing seismic geotechnical engineering analyses for the design of bridges, embankments, dams, and/or other major structures, including: Simplified Seismic Site Response, Equivalent-Linear One Dimensional Site Response, Liquefaction, Earthquake Induced Settlement, Pseudo-Static Seismic Slope Stability, and other related analyses.

Geotechnical Laboratory Qualifications & Capabilities

AASHTO Accreditation (R18) for the following AASHTO test methods: T87, T88, T89, T90, T99, T100, T193, T208, T216, T296, T297, T265; and capable of performing KM 64-501 (CBR by Kentucky Method) KM 64-513 (Slake Durability), KM-64-514 (Jar Slake), and ASTM D 2938 or KM 64-523 (Unconfined Compression Test on Rock).

Refer to the Schedule of Laboratory Tests and Fees below for a list of laboratory tests.

The selected firms will be expected to have the capability to perform tests included in Items 1-12 in this schedule. Items 13-20 may be used on rare occasions; so, the capability to perform these tests is desirable, but not necessary in order to be selected to receive a contract. Firms should indicate which tests they are capable of performing in their response.

Ability to use gINT software to store and report laboratory data.

SPECIAL INSTRUCTIONS—Cont'd

Payment Structure

The hourly rates for engineering and laboratory testing services will be based upon "loaded" rates determined from the audited average hourly rates and multipliers (overhead and cost-of-money plus an operating margin of 10% for engineering and 15% for laboratory testing). All applicable rates will be from audits performed by the Division of Audits, External Audit Branch. Invoices will be paid by the Geotechnical Branch based upon the average hourly rates of the personnel classifications and multipliers contained in the most recent audit report at the time the invoice is submitted. Payment may be adjusted by the External Audit Branch and/or the Division of Program Performance, Professional Services Branch. For engineering services, the Department will pay for the actual hours worked, up to the specified ceiling rates (maximum allowable hours); time records will be required. For laboratory testing services, the Department will pay the specified production rates per unit; time records will not be required. The production rates (hours per unit of work) are specified below in the Summary of Specified Ceiling Rates for Engineering Tasks and the Summary of Laboratory Tests and Specified Production Rates. The Geotechnical Branch may specify classifications of personnel for engineering tasks on a project-by-project basis. There may be project-specific exceptions for engineering tasks if pre-approved in writing. The Department will reimburse the consultant for any direct cost expenses pre-approved in writing at the actual cost (with receipts).

[Click here for a Word document containing a Summary of Specified Ceiling Rates for Engineering Tasks](#)

Professional Liability Insurance

Firms must provide proof of \$1,000,000 of professional liability insurance in order to receive a statewide geotechnical engineering and laboratory testing contract.

SCOPE

Services will be performed in general accordance with the KYTC Geotechnical Manual and other applicable KYTC and/or FHWA documents, with exceptions, clarifications, or additions identified during negotiations and/or on a project-by-project basis. The services will include, but are not necessarily limited to the following:

CONVENTIONAL GEOTECHNICAL ENGINEERING ANALYSES: Slope Stability, Settlement, Deep Foundation, Wave Equation Drivability, Negative Skin Friction, Bearing Capacity, and Retaining Wall.

SEISMIC GEOTECHNICAL ENGINEERING ANALYSES: Simplified Seismic Site Response, Equivalent-Linear One-Dimensional Site Response, Liquefaction, Earthquake Induced Settlement, Pseudo-Static Seismic Slope Stability.

LOAD and RESISTANCE FACTOR DESIGN (LRFD): When LRFD is required on a project; conform to the AASHTO LRFD Bridge Design Specifications, current edition, with interims.

DRAFTING: Preparing Microstation CADD drawings of roadway soil profile sheets, embankment and cut stability sheets, structure subsurface data sheets, geotechnical note sheets, and other related drafting.

PRELIMINARY PLANS: Boring, Laboratory Testing, and Engineering Analysis Plans.

MEETINGS: Preliminary, Rock Core, Interim, and Final Meetings.

REPORTS: Writing and publishing Geotechnical Engineering Reports in hard copy and electronic format in accordance with applicable sections of the Geotechnical Guidance Manual.

LOGGING ROCK CORES

GEOTECHNICAL LABORATORY TESTING: Refer to the *Summary of Laboratory Tests and Specified Production Rates* below for a list of laboratory tests. Tests included in Items 1-12 in this schedule may be required on a regular basis; Items 13-20 will be used rarely. Upon request, provide laboratory test reports according to KYTC format.

RURAL ROADWAY DESIGN AND SURVEYING: Performing Rural Roadway Design and Surveying as necessary to prepare a complete set of roadway plans for the design of landslide, rock-fall and other small project corrections.

SPECIALTY SERVICES: Services such as in-situ testing, geophysical testing, etc., may be included with details to be discussed on a project-specific basis.

ENVIRONMENTAL	N/A
PHOTOGRAMMETRIC SERVICES	N/A
STRUCTURE DESIGN	Consultant may be required to provide design of drill shafts for traffic poles.
TRAFFIC	N/A
GETOECHNICAL SERVICES	Consultant will provide geotechnical engineering and laboratory testing services.
RURAL ROADWAY SERVICES	Consultant may be required to provide rural roadway design on some projects.
SURVEYING	Consultant may be required to provide surveying on some projects.

PREQUALIFICATION REQUIREMENTS

GEOTECHNICAL SERVICES

- Engineering
- Laboratory Testing

PROJECT SCHEDULE & MILESTONES

RESPONSE DATE

February 12, 2008 4:30 p.m. (Frankfort Time)

SELECTION COMMITTEE MEETING

January 30, 2008

NOTICE TO PROCEED

March 1, 2008

COMPLETION OF SERVICES

June 30, 2010

EVALUATION FACTORS

1. Relative experience of consultant personnel assigned to project team with highway projects for KYTC and/or for federal, local or other state governmental agencies. (10 points).
2. Capacity to comply with project schedule. (10 points)
3. Past record of performance by firm on projects of similar type and complexity. (10 points)
4. Project approach and proposed procedures to accomplish the services for the project. (10 points)
5. DBE Participation Plan (5 points)
6. Consultant's Kentucky offices where work is to be performed. (2 points)

75%-100% of work accomplished in Kentucky offices—2 points

26%-74% of work accomplished in Kentucky offices- 1 point

0% - 25% of work accomplished in Kentucky office—0 points

SELECTION COMMITTEE MEMBERS

1. Darrin Beckett, P.E., User Division
2. Chris Slone, P.E., User Division
3. Matt Bullock, Secretary's Pool
4. Ed McCracken, Secretary's Pool
5. Edwin Dyer, Governor's Pool