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ALABAMA DEPARTMENT OF TRANSPORTATION

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John R. Cooper
Transportation Director

April 3, 2024

NOTICE OF NEED FOR SERVICES

TO: Consultants

**FROM: George H. Conner, P.E.
Deputy Director, Operations**

**RE: Geotechnical Services for Birmingham Northern Beltline
Jefferson County**

The Alabama Department of Transportation has determined that it needs and will seek consultant services for the above referenced project. Attached is a "Notice of Need for Services" containing an abbreviated scope of work and evaluation information. Firms expressing interest should be fully capable of providing the end results.

The purpose of this inquiry is to determine interest or non-interest of your firm providing the professional services required by the scope of work. A number of firms are being asked to express their interest in regard to these services and following this expression, a short list of firms will be selected for further consideration.

Your response to this inquiry should be in the form of a letter-type response that addresses the points listed in the evaluation portion of the need for services. **This response should be limited to a maximum of five pages.** Failure to receive such letter by the deadline indicated will be considered as "no interest."

NOTICE OF NEED FOR SERVICES

Notice is hereby given that the Alabama Department of Transportation, 1409 Coliseum Boulevard, Montgomery, Alabama 36110, is requesting submittal of interest from all firms interested in performing work outlined in the following scope of work. This will be a unit rate agreement.

SCOPE OF WORK

The CONSULTANT will, when requested by the STATE, perform drilling and sampling of roadway and bridge sites in accordance with all AASHTO/ASTM standards, for certain projects selected by the STATE on the Birmingham Northern Beltline, and within such limits as assigned and directed by the STATE. All borings will be performed by a drill rig which has automatic hammers. The hammers will be calibrated at least once a year either by the STATE or the CONSULTANT shall provide calibration data performed by others to the STATE. The CONSULTANT will log all borings and samples and, when requested, deliver these to the Bureau of Materials and Tests in Montgomery or to the appropriate Materials Engineer. All appropriate precautions will be taken in handling, storage and transportation of samples to ensure damage does not occur. When requested by the STATE, the CONSULTANT will also perform laboratory tests on samples as directed and prepare a formal written Geotechnical report in accordance with the appropriate ALDOT Procedure depending on the project type using qualified geotechnical engineers and geologists. All holes will be logged by a qualified geologist or engineer and signed by a registered engineer.

When requested by the STATE, the CONSULTANT will prepare a Soil Survey, Materials Report, and/or Culvert Report in accordance with ALDOT Procedure 390, "Procedure for Conducting Soil Surveys and Preparing Materials Reports", and when appropriate, ALDOT Procedure 391, "Falling Weight Deflectometer (FWD) Testing Procedure", and ALDOT Procedure 392, "Pavement Evaluation and Distress (Condition) Survey Procedure". When

requested by the STATE, the Consultant will prepare a Slope Study, Bridge Foundation Report, Bridge Culvert Foundation Report, and/ or Retaining Wall Report in accordance with ALDOT Geotechnical Manual. When requested by the STATE, the CONSULTANT will provide technical assistance in other phases of project development and execution to include construction materials testing and product plant inspections. Other forms of investigation may be requested such as geophysical, CPT, MWD etc., as appropriate.

The CONSULTANT shall provide training to STATE employees on geotechnical engineering related issues as required.

SECTION 1 – DEFINITIONS

ACRONYM

WORD

CPT	Cone Penetration Testing
CU	Consolidated Undrained
LVD	Laboratory Vibrated Density
MOD	Modified
MWD	Measurement While Drilling
PP	Pore Pressure
SPT	Standard Penetration Test
STD	Standard
T-XXX	AASTHO Testing Procedure
UU	Unconsolidated, Undrained

SECTION 2 – DRILLING ONLY (ROADWAY CUT, FILLS)

1. Using project plans as furnished by the STATE the CONSULTANT will:
 - a. Develop a drilling plan for approval by the STATE.
 - b. Provide survey assistance as needed.
 - c. Make borings in accordance with AASHTO T-206, and approved drilling plan.

- d. Provide field logs of borings, using the STATE format.
 - e. Take Thin-Walled Tube Samples as outlined in AASHTO T-207 as directed.
 - f. Take NQ or NQ 2 rock cores as outlined in AASHTO T-225 and place in core boxes with foam filled inserts. The core boxes must be NX Foam Filled Core boxes. The standard core box size is 24" x 12- 5/8" x 2- 3/8". The box features a fully telescoping lid from the body with a custom cut fluted foam insert made to cradle the core. The box is a traditional corrugated box with a guaranteed burst strength of 250lbs.
 - g. Deliver all samples, except for rock cores, and drill logs, to the Bureau of Materials and Tests, 3704 Fairground Road, Montgomery, Alabama, 36110, or as directed by the STATE.
 - h. Provide bulldozer and/or brushcutter for access to holes if necessary.
 - i. Provide all required State and Federal permits.
 - j. Deliver rock core to Bureau of Materials and Tests Annex, 2778 Gunter Park Drive East, Montgomery, AL 36109, or as directed by the STATE.
- 2. All borings will be logged by a qualified geologist or engineer. If the Department personnel cannot perform soil testing necessary to complete logging the CONSULTANT may be required to perform the testing.
 - 3. The CONSULTANT will begin work within ten (10) days of the date of receipt of written instruction to proceed.
 - 4. The CONSULTANT will complete all work and submit all samples and boring logs to the STATE within the time period specified in the notice to proceed.

SECTION 3 – DRILLING ONLY (BRIDGES)

- 1. The CONSULTANT shall perform all items in Section 1 and the following:

- a. Take disturbed samples from the bent nearest the stream to a minimum of 25 feet below streambed for use in scour analysis. These samples will be taken from the split spoon sampler in each layer of material.

SECTION 4 – DRILLING, TESTING, ENGINEERING

1. The CONSULTANT shall perform all items in Section 1, Section 2, and Section 3 according to the type project and the following when required by the STATE.
 - a. Perform laboratory tests as outlined in the approved drill plan and approved scope of work.
 - b. Compile test results and use in preparing a Geotechnical Report according to the type project, i.e. slope study, fill settlement, bridge foundation, according to ALDOT Geotechnical Manual and instructions given in the approved scope of work.
 - c. The CONSULTANT will submit a review copy of the Geotechnical Report to the Geotechnical Engineer for review and approval as directed by the STATE. After the Geotechnical Report is finalized, the CONSULTANT will submit electronic copies of the final Geotechnical Report, an electronic copy of the final Geotechnical Report will be uploaded to GeoGIS, and copies of all test boring records to the Geotechnical Engineer for distribution as directed by the STATE. The CONSULTANT will provide a DIGGS (diggsml.org) file of all geotechnical data to the STATE and the file must be uploaded to GeoGIS.
 - d. Geotechnical Site Investigation/Exploration (See Attachment “A”)

SECTION 5 – PREPARATION OF A SOIL SURVEY AND/OR MATERIALS REPORT

The CONSULTANT will prepare a Soil Survey and/or Materials Report according to the type of project, i.e. grade and drain, base and pave, resurfacing according to ALDOT Procedure 390, and when appropriate, ALDOT Procedures 391 and 392. Reports should be in general conformity with Chapter 9 of the AASHTO Manual on Subsurface Investigation, 2nd Edition, 2022.

Geotechnical Site Investigation/Exploration

Conduct site investigations meeting the requirements established in the State of Alabama Geotechnical Manual for ALDOT. In addition to specified submittals, include the following electronic deliverables:

Electronic Deliverables:

1. Final digital file of electronic Plan sheets, showing coordinate correct locations of all geotechnical exploration borings, soundings, other test advances, instrumentation installation locations, and geophysical investigation locations. Multiple sheets may be used to depict locations such that information is presented on a meaningful scale for engineering design consistent with other project plan sheets.
2. Final digital file of electronic Cross-Section sheets showing coordinate correct locations of all geotechnical exploration borings, soundings, other test advances, instrumentation installation locations, and geophysical investigation locations (if specified as a project requirement). Plot to a scale consistent with other project cross section sheets.
3. Geotechnical data for the data types listed below in digital format meeting the requirements of AASHTO PP 102-20 (†1).
 - a. Complete exploration boring (log) data including location, site and drilling information, sampling, field identification and classification, drillers notes, and related required soil, rock, and water information.
 - b. Cone Penetration Test (CPT) sounding data
 - c. Flat Plate Dilatometer (DMT) data
 - d. Pressuremeter (PMT),
 - e. Measurement While Drilling (MWD) data
 - f. Other in-situ exploration data
 - g. Geophysical data (resistivity, seismic, GPR, etc.)
 - i. Processed Field data
 - ii. Processed (Interpreted) results with coordinate correct locations
 - h. Other electronic Field Testing data (sensor, pump test, etc.)
 - i. Soils and Geotechnical laboratory testing data (e.g. moisture content, Atterberg limits, unconfined compression, direct shear, triaxial, etc.)

(†1) When using the DIGGS XML format, using the most current schema and tools.

Convert and validate gINT project files, or other source files, in the template format provided by the ALDOT to the DIGGS (Data Interchange for Geotechnical and Geoenvironmental Specialists) XML format, using tools and applications available at <https://www.geoinstitute.org/special-projects/diggs/schema-tools> or <https://pypi.org/project/pydiggs/>

Data types not yet supported for XML file exchange by the DIGGS format may be submitted in native software file formats.

4. As required by the Contract, provide appropriate reports as detailed in the ALDOT Geotechnical Manual.
 - a. Geotechnical Data Reports
 - i. Include original engineering measurements and associated field or lab determined parameters.
 - b. Geotechnical Design Memorandum
 - i. Include interpreted results appropriate for design and construction
 - c. Geotechnical Baseline Report
 - i. Refer to the Agency Manual for more details on the iterative development of this document.

Use the most current DIGGS schema and tools. The URL for DIGGS programming resources is: <https://github.com/DIGGSml>

Electronic data provided in an AASHTO PP 102-20 compliant format (DIGGS XML or other acceptable specified data format) must be validated prior to providing data to the ALDOT to minimize the potential for incorrect formatting and transfer errors. DIGGS validation tools are available at: https://github.com/DIGGSml/diggs_validator The available Python package validates DIGGS instance files against DIGGS XSD and Schematron schemas.

Additional information on DIGGS can be found in Section 1.3 of the AASHTO Manual on Subsurface Investigations 2nd Edition, September 2022 and at the following website: <https://www.geoinstitute.org/special-projects/diggs>

Submit electronic information through the GEOGIS, by e-mail, or other designated electronic transfer system. Label all electronic files with the state project number and submission date.

For additional information on these requirements, contact Molly Barnwell, P.E. at (334)206-2287.DIGGS

EVALUATION

Firms interested in performing the work will be considered on the basis of information in the files and submittal of the following in written form (limited to five pages):

1. Statement of professional registration of the firm and names and professional registration numbers of individuals involved in this project or listing of any professional associations related to your industry. Statement of AMRL certification for the lab, what proficiencies it is certified for, and the actual location(s) where office work and lab work will be performed.
(30 %)
2. Statement of experience in the fields that the proposed services are requested and work of similar nature which the proposed staff for requested services was in responsible charge. Please provide examples of projects similar to those expected to be performed under this contract. Proposed staff names and experience are to be provided.
(40 %)
3. Statement of availability and adequacy, in both number and quality of remaining staff, to perform all other functions needed in the proposed services. Please provide years of experience for these personnel as well.
(30 %)

Submit Statement of Interest

TO EXPRESS INTEREST

Click on the button above to submit your statement of interest to us as an attachment via e-mail mail to mailers@dot.state.al.us. Also, please visit our website at <https://cpmsapps.dot.state.al.us/ConsultantManagement//default.aspx> and make sure your firm is pre-qualified with the Department. Please remember that your statement of interest must be **five pages or less** and **must** be identified with **Geotechnical Services for Birmingham Northern Beltline, Jefferson County**. All statements of interest must be received prior to close of business 4:00 p.m. Central Time on Friday, May 3, 2024. After submittal, if you have not received confirmation of receipt from the Department by the end of the next business day, please contact us at (334) 353-6708.

“It is the policy of the Alabama Department of Transportation that Disadvantaged Business Enterprises as defined in 49 CFR Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds.

Firms selected for work by the Alabama Department of Transportation agree to ensure that Disadvantaged Business Enterprises as defined in 49 CFR Part 26 have the maximum opportunity to participate in the performance of work associated with this project. We expect that all necessary and reasonable steps be taken to ensure that Disadvantaged Business Enterprises have the maximum opportunity to perform contract work.”
