EXHIBIT "A"

Districtwide
Geotechnical & Pavement Coring
Services Contract

Scope of Services

FM 43970956201

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SCOPE OF SERVICES

Geotechnical & Pavement Coring Services Contract

1.0 Purpose:

This scope of services describes and defines the consultant services to support the Department in geotechnical investigation, analysis and design, pavement coring and evaluation, as well as geotechnical inspection, testing and analysis of projects under construction. In the execution of its services, the Consultant will work principally with and coordinate its activities with the Department's District 4 & 6 Materials & Research Office (DMRO).

2.0 Consultant Responsibility:

The consultant will be responsive to the Department's request for services 24 hours a day, 7 days a week, and 365 days a year. It is the consultant's responsibility to pursue and obtain all information, reports, permits, utility/environmental clearances and lane closure approvals necessary to perform services on this Contract.

The consultant will attend meetings as requested by the Department. Coordinate with the Department prior to attendance of meeting. Attendance at meetings not requested by the Department may not be reimbursed. When meetings are hosted by the Consultant, coordinate all activities with the stakeholders, and distribute the minutes to all participants and District Project Manager (DPM).

Perform services at the Department's facility using the Department's resources as requested. The consultant will provide expert witness services if requested by the Department.

In the event the consultant encounters actual or suspected environmental contamination while performing services on this Contract, immediately cease work and notify the Project Manager in writing.

Do not perform services during suspension of the accreditation or qualifications governing the service(s) in question. Do not allow unqualified personnel or personnel with suspended qualifications to perform or oversee services. Fees shall be reimbursed to the Department for any charges for services performed without appropriate qualifications and/ or accreditations.

Be responsible for properly retaining and handling samples. When samples are lost or cannot determine the Contract compliance of the material due to mishandling, consultant may be responsible for performing an Engineering Analysis\Investigation at no cost to the Department.

Provide timely and accurate supporting documentation for the work to be invoiced including accurate and timely submittal of timesheets as directed by the Department. Minimize discrepancies between reported completed work and work quantities invoiced.

Any questions or concerns should be brought to the attention of the Project Manager.

For Non-compliance with Construction Contracts, Consultant may be required at no additional cost to the Department, to provide an Engineering Analysis Report prepared by an independent engineering firm approved by the DPM when sampling and/ or testing services provided by the firm fails to meet the expectations of the Construction contract.

The Consultant shall provide and maintain an up-to-date list of staff with agreed-to classifications and approved salaries (subject to the contract Exhibit "B") that would be available to be assigned to specific Task Work Orders. No Consultant staff, except those specifically identified in a Task Work Order or those specifically agreed to by the Department Project Manager, shall charge time to that particular Task Work Order.

Consultant must request approval from the Department's Project Manager for any modifications or additions to the list of available staff prior to the initiation of any work by that individual. If applicable, new job classifications may be added to the contract via contract amendment. Consultant shall submit a copy of the resume and payroll register before new staff can be added.

For a Task Work Order where Consultant staff are anticipated to work the majority of a 40 hour week at Department facilities, the Consultant will be reimbursed at the field rate, and staff who are anticipated to work on average the majority of the week at the home office should be reimbursed at the home rate.

3.0 Subconsultant Services:

Services assigned to any subconsultants must be approved in writing and in advance by the Department Project Manager, Procurement Office, and the Consultant Project Manager in accordance with this Agreement. All subconsultants must be technically qualified by the Department to perform all work assigned to them. Additional subconsultants with specialized areas of expertise may be required to complete specific Task Work Order assignments. Any subconsultant to be hired and all work assignments to be performed, and all rates of compensation shall be agreed to by the Department Project Manager, Procurement Office and the Consultant Project Manager and documented in the contract file prior to any work being performed by the subconsultant.

Any new subconsultant must be added to the contract via contract amendment (in coordination with the Procurement Office) prior to any issuance of work on a Task Work Order.

4.0 Department Responsibility:

The Department will provide technical administration of the contract, conduct laboratory inspections, review actual test methods and procedures, review test results and reports, review invoice submittals, and generally determine compliance with this contract.

5.0 Reference Documents:

The services provided by the Consultant in the office, field, and lab shall be in compliance with the current edition -including updates- of all applicable Department Manuals and Guidelines as well as State and Federal regulations. This shall include but not be limited to the following:

- Florida Department of Transportation (FDOT) Standard Specification for Road and Bridge Construction as amended by contract documents
- FDOT Roadway Plans Preparation Manual
- FDOT Design Standards
- FDOT Structures Manual
- FDOT Structure Design Office Standard Drawings
- FDOT Materials Manual
- FDOT Manual of Florida Sampling and Testing Methods
- FDOT Manual for Safety and Control of Equipment Containing Radioactive Materials
- FDOT Construction Project Administration Manual (CPAM)
- FDOT Construction Training and Qualification Manual (CTQM)
- FDOT Soils and Foundation Handbook
- FDOT Right of Way Procedures Manual
- FDOT Radiation Safety Manual
- FDOT Utility Accommodation Manual
- Federal Highway Administration (FHWA) Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications
- American Association of State Highway and Transportation Officials (AASHTO) Test Methods
- American Society for Testing and Materials (ASTM) Standards
- Manual on Uniform Traffic Control Devices
- Code of Federal Regulations (CFRs)
- Safe Work Practices and Compliance Standards Handbook
- Geotechnical Design / Plans Review Checklist
- Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1001 and 1926.58, 49 CFR 171 and 172
- Local Agency Program (LAP) manual
- Chapter 14-103 Construction Aggregate Rule
- CQC Specifications, and related directives
- FDOT Standard Operating Procedure for Evaluation, Approval, and Control of Mineral Aggregate Sources
- FDOT Standard Operating Procedure for Quality Assurance of Mineral Aggregate Sources
- FDOT Records Retention Guideline
- Southern Pine Inspection Board Standards
- Approved Auger Cast pile installation plan (ACPIP)
- Drilled Shaft Installation Plan (DSIP)
- Transportation Technology Geographic Information Systems Manual

6.0 Terminology and Definitions:

AASHTO – American Association of State Highway Transportation Officials
ASTM – American Society of Testing Materials

AFP - FDOT Automated Fee Proposal system
BDR – Bridge Development Report
CADD - Computer Aided Drafting & Design
CAPWAP - Case Pile Wave Analysis Program
CPM - Consultant Project Manager
CSC - Continuing Services Contract. Max 5 yrs. & $5 Million
CTQP - Construction Training & Qualification Program
DER - Department of Environmental Regulation (Federal & State)
DGE – District Geotechnical Engineer
DMRE - District Materials & Research Engineer.
DMRO - District Materials & Research Office
DPM - Department Project Manager.
DPSU - District Professional Services Unit
DWC - District-Wide Contract. Max 5 yrs. & $1.5 Million
EAR - Engineering Analysis Report
EDC - Embedded Data Collector
ERC – Electronic Review Comments
FDOT - Florida Department of Transportation
FM - Florida Method
IA - Independent Assurance
IV - Independent Verification
LOA – Letter of Authorization
LQP - FDOT Laboratory Qualification Program
MAC - Materials Acceptance & Certification System
MM - FDOT Materials Manual
PCR - Pavement Coring & Reporting
PDA - Pile Driving Analysis
QAR - Quality Assurance Review
QC - Quality Control
R – Resolution
SA - Supplemental Amendment
SMO - State Materials Office
SPT – Standard Penetration Test
TWO - Task Work Order
V – Verification
WEAP – Wave Equation Analysis Program

7.0 Communication and Reporting:

Maintain timely and effective communication. Report results electronically to the Department in the most efficient manner and as approved in advance by the Department.

Prepare final analysis and recommendations in the format of final reports. Submit draft recommendations to the Department's Project Manager for review prior to preparing final report. Report shall include all elements requested, as well as any additions, alterations and changes directed by the Department. Reports shall also include, as applicable, topographical maps, aerial photographs, geological maps and reports, soil conservation

service surveys, existing construction plans, potentiometric maps, and adjacent projects, and other pertaining information.

The final reports and plan sheets shall be signed and sealed by a Professional Engineer registered by the State of Florida. Acceptable formats and number of copies are specified in Department's various policies and procedures.

Upon completion of a work order, deliver to the Department all project files, sketches, work-sheets, plans, and other materials used or generated during the performance of services requested in this Scope in an organized manner.

Communicate assignment related issues during non-business hours directly with the Department's representative overseeing consultant's work, typically District Materials Office personnel.

8.0 Reporting Test Results:

Enter test results into Department database within 24 hours of test completion. Labor associated with test reporting is a unique pay item, and is not included in the cost of the test. For data entry and validation, actual time up to a maximum of 15 minutes per sample is deemed reasonable. Updating should be performed by clerical or testing personnel.

9.0 Personnel:

Provide qualified technical and professional personnel to perform, to Department standards and procedures, the duties and responsibilities assigned under the terms of this agreement.

All consultant personnel/technicians must be approved in writing by the Department prior to performing services. All consultant personnel will be approved under one (1) labor classification per person. Exceptions may be allowed at the sole discretion of the Department. Obtain written approval for additional personnel prior to performing services. Approvals are valid for all work to be performed by authorized labor classification throughout the contract period.

All consultant personnel providing services on this Contract must perform to the satisfaction of the DPM. Personnel that do not perform services to the satisfaction of the DPM may be removed from the Contract.

All testing and inspection personnel must participate in Independent Assurance evaluations when applicable.

9.1 Additional Requirements for Select Geotechnical Personnel:

Dynamic Testing Operators must meet the position requirements for MAT Dynamic Testing Operator- Pile Foundation, as detailed in the Negotiations Handbook.

Dynamic Testing Engineer must meet the position requirements for MAT Dynamic Testing Engineer-Pile Foundation, as detailed in the Negotiations Handbook.

10.0 Conflict of Interest:

It is the consultant's responsibility to prevent real or perceived Conflict-of-Interest. Any concerns or appeals must be brought to the attention of the DPM for interpretation and response.

11.0 Off-Duty Law Officer with Vehicle:

List the name of the organization providing Off-Duty Law Officer support services in the Contract as a subconsultant. Title of the organization will be "Off-Duty Law Officer with Vehicle". The Contract Rates will be listed in the contract, under Exhibit B, Method of Compensation.

12.0 Ownership of Works and Inventions:

The Department shall have full ownership of any works of authorship, inventions, improvements, ideas, data, processes, computer software programs, and discoveries (hereafter called intellectual property) conceived, created, or furnished under this Agreement, with no rights of ownership in Consultant or any sub-consultants/ subcontractors. Consultant and sub-consultants/subcontractors shall fully and promptly disclose to the Department all intellectual property conceived, created, or furnished under this Agreement. Consultant or sub-consultants/ subcontractor hereby assigns to the Department the sole and exclusive right, title, and interest in and to all intellectual property conceived, created, or furnished under this Agreement, without further consideration. This Agreement shall operate as an irrevocable assignment by Consultant and sub-consultants/subcontractors to the Department of the copyright in any intellectual property created, published, or furnished to the Department under this Agreement, including all rights thereunder in perpetuity. Consultant and sub-consultants/subcontractors shall not patent any intellectual property conceived, created, or furnished under this Agreement. Consultant and sub-consultants/ subcontractors agree to execute and deliver all necessary documents requested by the Department to effect the assignment of intellectual property to the Department or the registration or confirmation of the Department's rights in or to intellectual property under the terms of this Agreement. Consultant agrees to include this provision in all its subcontracts under this Agreement.

13.0 Consultant Not Employee or Agent:

The Consultant and its employees, agents, representatives, or sub-consultants/ subcontractors are not employees of the Department and are not entitled to the benefits of State of Florida employees. Except to the extent expressly authorized herein, Consultant and its employees, agents, representatives, or sub-consultants/subcontractors are not agents of the Department or the State for any purpose or authority such as to bind or represent the interests thereof and shall not represent that it is an agent or that it is acting on the behalf of the Department or the State. The Department shall not be bound by any unauthorized acts or conduct of Consultant.

14.0 Services:

Provide services that are in compliance with all applicable documents referred to in the "General" paragraph of this document. The Department, at its option, may elect to expand, decrease, or delete the extent of each work element described in this scope of services, provided such action does not alter the intent of this agreement. The Department shall request Consultant services on an as-needed basis. There is no guarantee that any or all of the services described will be assigned during the term of this agreement. Further, the Consultant shall provide these services on a nonexclusive basis. The Department, at its option, may elect to have any of the services set forth herein performed by other consultants, sub-consultants, or Department staff without Consultant recourse.

All firms providing services on this Contract must be specifically listed on the Contract. Each firm must have their own unit rates for pay items and labor classifications defined by the Department. Do not include unit rate for the services and labor classifications not provided by the firm. The Department reserves the right to decline reimbursement if these conditions are not met.

14.1 Geotechnical Engineering:

14.1.1 Dynamic Pile Testing Services:

Perform the following **Dynamic Pile Testing** services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Review plans, specifications, geotechnical reports, etc.
2. Review Pile Installation Plan/Hammer Submittal & provide comments to DGE.
3. Attend construction meetings.
4. Perform Pile Dynamic Testing.
5. Provide printed/plotted (PDF) and electronic copies of test pile data to the DGE.
6. Perform Wave Equation Analyses (CAPWAP, WEAP, etc.) of test data.
7. Develop Pile Length & Driving Criteria letters for DGE review.
8. Review pile driving logs as driving progresses.
9. Troubleshoot pile driving problems.
10. Submit final summary report to the DGE.
11. Observe pile dynamic testing by others.
12. Review Contractor's Pile Length & Driving Criteria letters and send comments to DGE.
13. Review Foundation Certification Packages and send comments to DGE.

14.1.2 Drilled Shaft Services:

Perform the following Drilled Shaft services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Review Plans, Specifications, Geotechnical Reports, etc.
2. Review Drilled Shaft Installation Plan & provide comments to DGE.

3. Attend construction meetings.
4. Document any pilot hole results & provide information to DGE
5. Observe Test Shafts & Shaft Inspection Device (SID) surveys.
6. Collect and review Drilled Shaft inspectors log and test data for the DGE.
7. Recommend Drilled Shaft tip elevations to DGE.
8. Perform periodic site visits.
9. Review Design-Build Team's Foundation Certification Packages; send comments to DGE.
10. Recommend integrity tests to the DGE such as Thermal Integrity Profiling (TIP) and Cross-Hole Sonic Logging (CSL) for miscellaneous structure and redundant major structure drilled shafts.
11. Perform and/or Review Cross-Hole Sonic Logging (CSL) results.
12. Perform and/or review Thermal Integrity results.
13. Evaluate and assist in the resolution of drilled shaft construction issues.
14. Review Engineering Analysis Report (EAR) and provide comments to DGE.

14.1.3 Auger Cast Pile Services:

Perform the following Auger Cast Pile services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Review Plans, Specifications, Geotechnical Reports, etc.
2. Review Auger Cast Pile Installation Plan & provide comments to DGE.
3. Attend construction meetings.
4. Observe first Auger Cast Pile installation.
5. Review Inspector's Logs for the DGE.
6. Perform periodic site visits.
7. Troubleshoot problems as needed.
8. Recommend, Perform, and/or review Thermal Integrity results.
9. Evaluate and assist in the resolution of auger cast pile construction issues.
10. Review Engineering Analysis Report (EAR) and provide comments to DGE.

14.1.4 Monitoring Existing Structures:

Perform the following Monitoring Existing Structures services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Review Plans, Specifications, Geotechnical Reports, etc.
2. Review Settlement and Vibration Monitoring Plan and provide comments.
3. Review settlement and vibration recordings and provide comments.
4. Evaluate and assist in the resolution of settlement and vibration related issues.

14.1.5 Design Services

Perform the following Geotechnical Design services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Review proposed Field Exploration program with DGE representative.
2. Perform Field Explorations in accordance with the Governing Documents or as directed by the DGE.
3. Perform Laboratory Testing in accordance with the Governing Documents or as directed by the DGE.
4. Perform Engineering Analyses in accordance with the Governing Documents or as directed by the DGE.
5. Submit periodic (i.e. BDR, 60%, 90% & Final) draft reports for DGE review.
6. Review design ERC submittals (including project plans, Geotechnical Reports, Geotechnical Calculation Packages, Bridge Development Reports (BDRs), etc.).
7. Attend design meetings as needed.

14.1.6 Geographic Information System (GIS) Services:

Perform the following GIS services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Determine Latitude and Longitude of Soil Boring Locations.
2. Scan Soil Boring Profiles for input into GIS database.
3. Update Soil Boring database spreadsheet.

14.1.7 Subsurface Exploration:

Perform a Subsurface Exploration program as directed by the DGE. This generally would include:

1. A site investigation including borings, soundings and/or other in-situ tests.
2. Laboratory testing of soil samples obtained from the site investigation.
3. A geotechnical engineering report summarizing the findings.

14.1.8 Forensic Geotechnical Engineering Services:

Perform the following Forensic Geotechnical Engineering services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Investigate damage, deterioration, or collapse of a structure or roadway.
2. Perform an analysis of a project, site conditions, design calculations and assumptions, or construction methodology.
3. Develop repair and/or monitoring recommendations and prepare report.
4. Estimate quantities of the remediation program.
5. Provide on-site inspection of the remediation program.
6. Submit Daily Reports of the progress and quantities of the remediation program.

Provide the necessary equipment and personnel to perform Ground Penetrating Radar (GPR) scans for near surface depressions and depths up to 20 feet.

14.1.9 Sinkhole Services:

Perform the following Sinkhole Response services as required by the District Geotechnical Engineer (DGE). These services may include but are not limited to:

1. Perform field reconnaissance at the site.
2. Investigate subsurface conditions.
3. Submit a Geotechnical Report that summarizes the investigation and gives recommendations for remediation.
4. Provide a site plan for compaction grouting and polyurethane injection locations.
5. Provide Technical Special Provisions for compaction grouting.
6. Estimate quantities of the remediation program.
7. Provide on-site inspection of the remediation program.
8. Submit Daily Reports of the progress and quantities of the remediation program.
9. Submit a Remediation Completion Report that compiles all information from the Daily Reports and summarizes the entire remediation program.

14.2 Laboratory Testing:

Perform all tests in accordance with applicable testing Standards. Comply with all provisions of the Laboratory Qualification Program. Maintain appropriate accreditations\qualifications for the duration of the Contract.

The consultant laboratories are subject to periodic quality assurance reviews by the Department. The consultant will cooperate with the Department during these reviews and promptly correct any noted deficiencies.

14.3 Pavement Services:

Perform pavement survey/evaluation and report the results to the District Pavement Materials Engineer in general accordance with the most current governing documents.

The field investigation for roadway design may include but not limited to:

a. Perform preliminary site review and/or review available and pertinent information such as the most recent pavement condition survey (accessible on the Department's website), previous construction plans, major repair information, the proposed rehabilitation, etc. Create or assist with the development of a pavement investigation plan that includes coring and other tests that will be used to determine the cause of the pavement distress and support the rehabilitation strategy.

b. Inform the Department of the tentative schedule of work to be performed during the field survey and coring program.
c. Perform Preliminary site visit reviews and present a coring plan in accordance with the governing documents.
d. Obtain cores. Consult with the District Pavement Materials Staff for the number of cores to be obtained. Immediately fill all core holes after the core sample is extracted and any other required tests are performed. The equipment, materials and procedure used for filling the holes must be approved by the Department.
e. Perform appropriate laboratory testing (extraction, gradation, etc.) on roadway cores and material from other pavement layers where required.
f. After photographing, label, maintain, and retain the cores in storage as requested. When cores are no longer needed confirm with DPM prior to disposal.
g. Determine and report thickness and types of pavement, base, and stabilization layers.
h. Analyze the information and data collected in accordance with Materials Manual Section 3.2, and prepare a draft report. Include all pictures in the report.
i. Perform data entry into the Department's Pavement Core Reporting (PCR) system and/or in other systems as directed, and provide digital copies of pictures to the Department.

Provide the following other pavement-related services as requested:

a. Provide Maintenance of Traffic (MOT) services for coring operations in accordance with the FDOT Standards.
b. Upload Distance Measuring Instrument (DMI) data or Record GPS coordinates of core locations and other features relevant to the pavement evaluation to create a Keyhole Markup language Zipped (KMZ) file for viewing on Google Earth and make it available on the Department's Geographic Information System (GIS).
c. Provide milling recommendations.
d. Coordinate and receive feedback on the draft Preliminary Pavement Evaluation Report and Milling Recommendation by the District Materials Office.
e. Prepare a signed and sealed Final Pavement Evaluation Report and Milling Recommendation incorporating all elements of the Preliminary Reports and any additions, alterations, and changes directed by the DPM. Include all pictures in the report.
f. Approve alternate corrective methods for straightedge deficiency repair.
g. Investigate failing asphalt pavements.
h. Provide traffic speed laser profile testing and reporting.
i. Provide travel lane cross-slope testing and reporting.
j. Provide recommendations for pavement warranty and value-added repairs.
k. Obtain soil samples and perform required tests.