

ENGINEERING AND RELATED SERVICES

May 29, 2009

**STATE PROJECT NO. 700-29-0130
LEEVILLE TO GOLDEN MEADOW (PHASE 2)
ROUTE LA 1
LAFOURCHE PARISH**

Under Authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues a Request for Qualification Statements (RFQ) on Standard Form 24-102 (SF 24-102), "Professional Engineering and Related Services", revised January 2003, from Consulting Firms (Consultant) to provide engineering and related services. **All requirements of Louisiana Professional Engineering and Land Surveying (LAPELS) Board must be met prior to the execution of the contract. As required by law, any firm drilling soil borings shall be licensed as a Water Well Contractor in accordance with the Water Well Rules, Regulations and Standards of the State of Louisiana.** Evidence of a current license will be provided with the Qualification Statements. One Consultant will be selected for this Contract. In the event that a Sub-Consultant or Sub-Contractor needs to be utilized for drilling services, formal written notice shall be given to the DOTD of their qualifications two weeks prior to the execution of any Task Order. The Sub-Consultant or Sub-Contractor shall possess a Louisiana Water Well Contractor license and are subject to DOTD approval.

Project Manager – Mr. Tim Nickel may be reached at (225) 379-1110.

PROJECT DESCRIPTION

Leeville to Golden Meadow (Phase 2) Geotechnical Services will consist of providing drilling, sampling and testing, and Cone Penetration Tests (CPT) to be used for the design of the proposed eight miles of new roadway and bridge. The new alignment will be crossing several pipelines and canals, beginning at the north connector in Leeville and terminating at the existing four-lane LA 3235 highway in Golden Meadow. The alignment will connect to and continue the currently constructed southbound bridge and will continue northward providing appropriate spanning of pipeline, navigational and similar interests, will cross the levee at Golden Meadow and tie into LA 3235 with suitable transition from two to four lanes.

SCOPE OF SERVICES

SUBSURFACE INVESTIGATIONS:

The Geotechnical Subsurface Investigation Services to be provided shall include field investigations and laboratory testing. If any potential environmental problems are identified, the LADOTD Project Manager should be contacted.

The field investigation shall consist of:

- Field/Site reconnaissance (including right of entry, utility locations, access, etc.)
- Permit procurement for site investigation
- The soil borings and Cone Penetration Tests (CPT) located and to a depth as outlined in Appendix “B”. DOTD should be consulted for any additional investigations.

Due to the very weak soils anticipated from the site, handling of the samples including sampling, transportation, and storage is extremely important. No soil samples shall be extruded in the field. They should be transported and stored in a manner that will result in minimum disturbance. All samples will be transported vertically with the bottom of the sample face downward. Proper cushioning shall be used to reduce vibration from transportation. The samples shall also be stored vertically in a moisture controlled environment. Samples shall only be extruded within 24 hours of testing. The location of all geotechnical investigation points shall be identified using latitude, longitude, and surface elevation in addition to station and offset. Sampling shall be performed on 5-foot intervals. Where embankment and pavement are needed, the upper 20 feet shall be sampled continuously. The boring depths shall be at least 20 feet below the anticipated pile tip elevation.

The laboratory testing program shall reflect the project needs. For deep foundation design, at least 75 percent of the clay samples shall be tested for strengths and 50 percent of all samples shall have classification tests. Unconfined compression tests shall not be used. Where settlement is a concern such as the locations for pile group and embankment, consolidation tests shall be performed on the selected samples representing each stratum. CBR or resilient modulus testing shall be performed for the pavement subgrade.

All borings and CPT soundings holes shall be grouted in accordance to the regulatory requirements.

Log of Borings: The Consultant shall use 3 mil polyester double matte film for use in reporting the results as outlined above. The lettering used on the profiles shall be of such size and clarity that the legibility of data can be maintained when reduced to 50 percent of its original size. Soil profiles shall be grouped on the plan sheets according to the Construction Project Number(s). The originals of the all contents including soil boring profile sheets shall become the property of the LADOTD. The boring logs and associated test results shall also be submitted electronically in PDF format and using the gINT template adopted by DOTD.

Geotechnical Exploration and Investigations

The Consultant shall send a progress report either by email or fax to the Project Manager every Monday detailing the progress to-date and their planned weekly activities. The

geotechnical investigations, sampling and testing services to be provided may include, but are not limited to:

- Field Reconnaissance (including right of entry, utility locations, access, etc.)
- Mobilization/demobilization
- Deep and Shallow Soil borings
- Cone Penetration Tests (ASTM D5778-07)
- Water table elevations with duration of reading
- GPS Latitude and Longitude of borings to within 10 ft (3 m) accuracy
- Sealing boreholes in accordance to LA Water Well and DEQ Regulations
- Standard Penetration Tests and Split-Barrel Sampling of Soils (AASHTO T 206)
- Specific Gravity of Soils (AASHTO T 100)
- Laboratory Determination of Moisture Content of Soils (AASHTO T 265)
- Triaxial Compression Tests, Unconsolidated, Undrained (AASHTO T 296)
- Triaxial Compression Tests, Consolidated Drained 3-point (AASHTO T 297)
- Atterberg Limits (DOTD TR 428)
- Consolidation Tests with Rebound (AASHTO T 216)
- Organic Content (DOTD TR 413)
- Classification of Soils
 - Deep borings (ASTM D 2487 (USCS method))
 - Shallow borings (ASTM D 3282(AASHTO method))
- Drafting of boring logs
- Drafting of subgrade soil surveys
- Traffic Control

Borings or CPT soundings performed in the marsh area shall be performed from equipment that will minimize any disturbance the ecosystem. Marsh buggies are not allowed. The deep soil borings shall be made by the wet rotary drilling method. In each deep boring, undisturbed samples of cohesive or semi-cohesive material shall be obtained from each distinct soil stratum that is penetrated or 5 ft (1.5 m) interval, whichever is less, using a 3 in. (76 mm) diameter Shelby tube sampling barrel as per AASHTO D 207. When cohesionless soils are encountered at any depth, a split spoon sampler shall be used in conjunction with Standard Penetration Tests (SPT) at 3 foot (1 m) intervals. The efficiency of the hammer shall be calibrated prior to commencing the field work. A copy of the calibration results shall be attached to the final report. In the case of massive dense sands being encountered, the Project Manager may be contacted in order to relax the sampling interval, on a case-by-case basis. If requested by DOTD, continuous sampling of a boring will be obtained at 3 foot (1 m) intervals to a pre-determined depth. Boring samples shall be retained for a minimum period of 90 days.

Boring logs which show evidence of SPT's in cohesive soils or tube samples in cohesionless soils will not be accepted.

Shelby tube samples shall be sealed in the field using wax or other approved method. Samples may not be extruded at the worksite. Sample tubes shall be transported vertically in the same orientation as they were sampled, with care taken to avoid

excessive temperature variation, vibration, or any other sample disturbance. They shall be extruded in the laboratory in accordance by means of a continuous pressure hydraulic ram. Extrusion by any other method, such as water pressure, is prohibited. Samples shall be extruded directly onto a sample trough, and shall not be caught with the hands.

Soil mechanics laboratory testing shall be performed on at least 75 percent of the samples obtained from the borings. Strength testing (UU Triaxial compression) and Atterberg limit testing shall be performed on at least 75 percent of the extruded cohesive samples.

If designated as required for the boring, consolidation tests shall be performed according to AASHTO T 216, and results shall be reported as graphs of "Void Ratio vs. Log of Pressure" and "Coefficient of Consolidation vs. Log of Pressure". Both plots may be shown on the same graph, if adequately labeled. Any sample from a clay layer that shows signs of being overconsolidated must be subjected to a load/rebound/re-load cycle during the consolidation testing, as per AASHTO T 216. Any sample selected for consolidation testing shall also have the specific gravity determined according to AASHTO T 100, and the Atterberg Limits determined according to DOTD TR 428, and with supporting results reported. Laboratory classification of soils from deep borings shall be in accordance with ASTM D 2487. Additionally, sufficient unconsolidated undrained triaxial compression shear tests, unit weight tests, and natural water content tests shall be performed to augment the unconfined compression tests and provide engineering data necessary to design pavement, bridge, and embankment structures, all in accordance with present design requirements and standard engineering practice. All other sampling and testing shall be performed in accordance with current AASHTO test procedures, unless otherwise noted.

All or part of the services listed above may be required for each boring. The natural ground in elevation at the location of each borehole shall be determined to within 6 in. (0.15 m). These elevations maybe determined utilizing elevations of existing structures for landmarks that may be shown on the plans supplied. If DOTD has established a temporary benchmark (TBM) at the site, it shall be used in lieu of elevations shown on the plans. The use of water level as reference may be acceptable if a reliable water level elevation may be obtained.

It will be the responsibility of the Consultant to obtain consent from the respective landowners in order to enter onto private property. In the case that consent is not granted, the Consultant shall contact the project manager to execute a Forced Entry, as per Louisiana Revised Statute 48:217. Forced entry access will be granted via written notice from the project manager.

Deliverables

It will be the responsibility of the Consultant to obtain 3 or 4 mil polyester double matte film for use in reporting the geotechnical exploration results. The DOTD Pavement & Geotechnical Services Section will provide one sheet to the Consultant for use as an example upon request. The lettering used on the profiles shall be of such size and clarity

that the legibility of data can be maintained when reduced to fifty (50) percent of its original size. Soil profiles shall be grouped on the plan sheets according to the Construction Project Number(s). In addition to the printed submittal, an electronic PDF version of all deliverables as well as the electronic GINT files shall also be submitted. All project deliverables shall become the property of DOTD upon successful completion of the above captioned project.

All reported test results, including each profile sheet, shall be sealed and manually signed and dated by the Professional Engineer in responsible charge of testing. The DOTD Pavement and Geotechnical Services Section will review the completed boring logs for completeness and accuracy prior to their final submittal.

REFERENCES

All services and documents will meet the standard requirements as to format and content of the DOTD; and will be prepared in accordance with the latest applicable editions, supplements and revisions of the following:

1. AASHTO Standards, ASTM Standards or DOTD Test Procedures
2. DOTD Location and Survey Manual
3. DOTD Roadway Design Procedures and Details
4. DOTD Hydraulics Manual
5. DOTD Standard Specifications for Roads and Bridges
6. Manual of Uniform Traffic Control Devices
7. DOTD Traffic Signal Design Manual
8. National Environmental Policy Act (NEPA)
9. National Electric Safety Code
10. National Electric Code (NFPA 70)
11. DOTD Environmental Impact Procedures (Vols. I-III)
12. Policy on Geometric Design of Highways and Streets
13. Construction Contract Administration Manual
14. Materials Sampling Manual
15. DOTD Bridge Design Manual
16. Consultant Contract Services Manual
17. Geotechnical Engineering Services Document
18. Bridge Inspectors Reference Manual
19. DOTD Stage 1 Manual of Standard Practice
20. Code of Federal Regulations 29 CFR 1926 (OSHA)

ITEMS TO BE PROVIDED BY DOTD

DOTD will provide, if available:

- Existing soils data upon request.
- Limited Preliminary Construction Plans under S.P. No. 829-32-0010
- Appropriate LADOTD Geotechnical procedures upon request.

- Provide stations for borings and CPT's.

COMPENSATION

Compensation to the Consultant for services rendered in connection with this Contract shall be made based on unit/billable rates for the services rendered as listed in Table 1 below from the Consultant Contract Services Unit of DOTD. Any item not covered by this list will be negotiated.

Table 1: Statewide Geotechnical Rates

GEOTECHNICAL SERVICES		
Line Item	Unit	Recommended
Mobilization/Demobilization		
Land ECPT Equipment/vehicle	To be negotiated on a per Task Order basis due to dynamic factors relating to these items.	
Swamp ECPT Equipment/vehicle		
Water ECPT Equipment/vehicle		
Mobilization/Demobilization, land drilling equipment/vehicle		
Mobilization/Demobilization, swamp drilling equipment/vehicle		
Mobilization/Demobilization, water drilling equipment/vehicle		
Geoprobe Equipment Mob/Demob		
Drilling and Sampling		
0 ft. to 100 ft. (land)	/ft	\$ 14.50
101 ft. to 150 ft. (land)	/ft	\$ 18.00
151 ft. to 200 ft. (land)	/ft	\$ 23.00
0 ft. to 100 ft. (swamp)	/ft	\$ 17.50
101 ft. to 150 ft. (swamp)	/ft	\$ 22.00
151 ft. to 200 ft. (swamp)	/ft	\$ 27.50
0 ft. to 100 feet (water)	/ft	\$ 22.50
101 ft to 150 ft (water)	/ft	\$ 27.50
151 ft. to 200 ft. (water)	/ft	\$ 33.50
Auger Drilling and Sampling	/ft	\$ 11.00
ECPT Probing-Land [1st 100 ft.] (includes sealing holes)	/ft	\$ 8.00
Geoprobe Sampling (0 to 20 ft.)	/ft	\$ 10.00
Geoprobe Sampling (20 to 50 ft.)	/ft	\$ 14.00
Related Services		
Difficult Boring Access	/hr	\$ 165.00
Difficult ECPT Access	/hr	\$ 165.00
Continuous Sampling, 0 ft. to 40 ft.	/ft	\$ 19.00
Setting Casing	/ft	\$ 8.00
Setting ECPT Casing	/ft	\$ 5.00
Sealing Boreholes, 4 in.	/ft	\$ 4.50
Sealing Boreholes, 6 in.	/ft	\$ 6.25
Coring of Portland Cement for Borings, 4 in.	/in	\$ 10.50

Coring of Portland Cement for Borings,6 in.	/in	\$	15.50
Coring of Portland Cement for ECPT, 3 in.	/in	\$	8.75
GPS Coordinates	/ea	\$	25.00
Laboratory Services			
Unconfined Compressive Strength and Unit Weight	/ea	\$	34.00
Unit Weight of Undisturbed Samples	/ea	\$	17.00
Atterberg Limits	/ea	\$	42.00
Triaxial Compression, Unconsolidated Drained or Undrained	/ea	\$	55.00
Triaxial Compression, Consolidated-Drained (3 pt. for sand)	/ea	\$	386.00
Consolidation Tests with Rebound	/ea	\$	325.00
Sieve Analysis	/ea	\$	50.00
Particle Size Analysis (Mechanical)	/ea	\$	77.00
Moisture Content & Classification of Samples	/ea	\$	7.50
Organic Content	/ea	\$	39.00
pH Determination	/ea	\$	20.00
Passing 200 Sieve (wet)	/ea	\$	30.00
Dry Preparation of Subgrade Soil Samples	/ea	\$	30.00
Shelby Tube Extraction - Laboratory	/ea	\$	13.00
Other			
Louisiana State Travel Regulations shall be used to determine reimbursement for meals, lodging rates, and mileage.			
DOTD Traffic Control Manual shall be used to define procedures to be used for traffic control. Police Officers used for public safety shall be in accordance with DOTD's <i>Policy for Use of Police Officers in Construction/Maintenance Work Zones</i> .			
Supplies (consumables such as gloves, cement, etc.) shall be no more than 10% of the drilling costs, with receipts required.			
In the event of lost or damaged equipment, including but not limited to: cone penetrometers, drilling bits and rods, tools, etc. DOTD shall not be liable to absorb the cost of replacement.			
All requests for additional administrative or other (not listed) compensation must be pre-approved by DOTD's Pavement & Geotechnical Services Section prior to submittal to the Consultant Contract Services Section.			
Any Metric projects assigned to the Consultant will be required to be reported in Metric units except for invoices, which will use English unit equivalents.			
Additional test procedures not listed above will be negotiated on a per Task Order basis as required.			
GEOTECHNICAL SERVICES			
BILLABLE RATES			
Salary Classes, per hour	Field	Office	
Principal	\$134	\$170	

Supervisor Engineer	\$109	\$138
Supervisor Other	\$ 95	\$120
Engineer	\$ 83	\$106
Preprofessional	\$ 54	\$ 69
Senior Technician	\$ 58	\$ 74
Cadd Technician	\$ 50	\$ 63
Technician	\$ 44	\$ 56
Cadd Drafter	\$ 37	\$ 47
Clerical	\$ 33	\$ 42

Difficult Boring access charges apply for off-road borehole locations that require transporting equipment and supplies between location by the use of matting or bulldozer in excess of one hour. Hourly rates include billing rates for drill rig, service vehicles, and drill crew. Drill rig set up and dismantling is included in the drilling costs per linear foot (meter) and is not to be included in boring access charges.

Unless specifically requested in the Task Order, payment for sieve analysis will be included in the cost for classification.

Payment for natural water content as determined by DOTD TR 403 will be restricted to samples having a reported plasticity index (PI) greater than 5, as determined by DOTD TR 428.

Payment for unit weight of undisturbed samples will be included in the cost for unconfined compressive strength unless compressive strength is unable to be determined due to sample condition.

Invoicing for Task Orders of durations less than or equal to 45 days should be on one invoice. Task Orders of durations greater than 45 days should be separated into field exploration and lab testing invoices. The lab testing invoice will be reviewed after receipt of the boring log/subgrade soil survey. DOTD requests that the items on the invoice should be in the same order as Table 1 to expedite payment. Direct costs, such as equipment rental or surveying charges, should be included on the invoice as separate items with receipts and not subject to the 5% retainage.

CONTRACT TIME

The Consultant shall proceed with the services specified herein after the execution of this Contract and upon written Notice-To-Proceed from the DOTD. The overall contract time to complete this project is estimated to be **270 calendar days**. The delivery schedule for all project deliverables shall be established by the Project Manager.

MINIMUM PERSONNEL REQUIREMENTS

The following requirements must be met at the time of submittal:

1. At least one Principal of the Consultant must be a Professional Engineer, registered in the State of Louisiana.
2. At least one Principal, or a responsible member of the Consultant, must be a Professional Civil Engineer, registered in the State of Louisiana.
3. The Consultant must also employ, on a full time basis, a minimum of one Professional Civil Engineer, registered in the State of Louisiana, with at least five years experience in responsible charge of geotechnical services.
4. The Consultant must also have a complete corresponding geotechnical support staff, both office and field personnel needed to perform the required services.

QUALITY CONTROL/QUALITY ASSURANCE

The DOTD requires the Consultant to develop a Quality Control/Quality Assurance program; in order to provide a mechanism by which all contracted services can be subject to a systematic and consistent review. Consultants must ensure quality and adhere to established design policies, procedures, standards, and guidelines in the preparation and review of all design products. The DOTD shall provide limited input and technical assistance to the Consultant.

EVALUATION CRITERIA

The general criteria to be used by DOTD (when applicable) in evaluating responses for the selection of a Consultant to perform these services are:

1. Consultant's firm experience on similar projects, weighting factor of 3;
2. Consultant's personnel experience on similar projects, weighting factor of 4;
3. Consultant's firm size as related to the estimated project cost, weighting factor of 3;
4. Consultant's past performance on similar DOTD projects, weighting factor of 6; **
5. Consultant's current work load with DOTD, weighting factor of 5;
6. Location where the work will be performed, weighting factor of 4; *

* All respondents will receive a 4 in this category

** The Geotechnical Exploration (GE) performance rating will be used for this project.

The complexity level for this project is **complex**.

Consultants will be evaluated as indicated in Items 1- 6. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of 0-4. The rating will then be multiplied by the corresponding weighting factor. The firm's rating in each category will then be added to arrive at the Consultant's final rating.

DOTD's Consultant Evaluation Committee will be responsible for performing the above described evaluation, and will present a short list of the three (if three are qualified) highest rated Consultants to the Secretary of the DOTD. The Secretary will make the final selection.

CONTRACT REQUIREMENTS

The selected Consultant will be required to execute the contract within 10 days after receipt of the contract.

INSURANCE - During the term of this contract, the Consultant will carry professional liability insurance in the amount of \$1,000,000. The Prime-Consultant may require the Sub-Consultant(s) to carry professional liability insurance. This insurance will be written on a "claims-made" basis. Prior to executing the contract, the Consultant will provide a Certificate of Insurance to DOTD showing evidence of such professional liability insurance.

AUDIT - The selected Consultant/Team will allow the DOTD Audit Section to perform an annual overhead audit of their books, or provide an *independent* Certified Public Accountant (CPA) audited overhead rate. This rate must be developed using Federal Acquisition Regulations (FAR) and guidelines provided by the DOTD Audit Section. In addition, the Consultant/Team will submit semi-annual labor rate information, when requested by DOTD.

The selected Consultant/Team will maintain an approved Project Cost System, and segregate direct from indirect cost in their General Ledger. Pre-award and post audits, as well as interim audits, may be required. For audit purposes, the selected Consultant/Team will maintain accounting records for a minimum of five years after final contract payment.

Any Consultant currently under contract with the DOTD and who has not met all the audit requirements documented in the manual and/or notices posted on the DOTD Consultant Contract Services Website (www.dotd.louisiana.gov), will not be considered for this project.

SUBMITTAL REQUIREMENTS

One original (**stamped original**) and four copies of the SF 24-102 must be submitted to DOTD. All submittals must be in accordance with the requirements of this advertisement and the Consultant Contract Services Manual. Any Consultant/Team failing to submit any of the information required on the SF 24-102, or providing inaccurate information on the SF 24-102, will be considered non-responsive.

Name(s) of the Consultant/Team listed on the SF 24-102, must precisely match the name(s) filed with the Louisiana Secretary of State, Corporation Division, and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

The SF 24-102 will be identified with State Project No. **700-26-0130**, and will be submitted **prior to 3:00 p.m. CST on Monday, June 15, 2009**, by hand delivery or mail, addressed to:

Department of Transportation and Development
Attn.: Mrs. Dawn G. Picard, P.E.
Consultant Contract Services Administrator
1201 Capitol Access Road, **Room 405-T**
Baton Rouge, LA 70802-4438 or
Post Office Box 94245
Baton Rouge, Louisiana 70804-9245
Telephone: (225) 379-1989

REVISIONS TO THE RFQ

DOTD reserves the right to revise any part of the RFQ by issuing an addendum to the RFQ at any time. Issuance of this RFQ in no way constitutes a commitment by DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all Qualification Statements submitted, and/or cancel this announcement if it is determined to be in DOTD's best interest. All materials submitted in response to this announcement become the property of DOTD, and selection or rejection of a submittal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the RFQ.