

## PROJECT DESCRIPTION

The project as covered by this contract shall consist of providing all necessary engineering services required to perform field data collection using dispersive wave testing and dispersive side sonic testing methodologies or other proven Non Destructive Testing methods on a list of approximately 900 bridges (50% timber, 42% concrete, and 8% steel) with unknown foundations and to screen the list of existing bridges and perform a detailed scour analysis on a selected number of these bridges.

## SCOPE OF SERVICES

The services to be rendered for this Project shall consist of the following Stages and Parts:

**Stage 1: Perform field data collection on bridges with unknown foundations using Non Destructive Testing**

- Part 1:** Consists of performing Field data collection using the dispersive wave testing methodology and or dispersive side sonic wave testing or other proven Non Destructive Testing methods. Pile selection will be the responsibility of the consultant, however LADOTD will reserve the right to designate particular piles on any bridge the engineer deems necessary. A minimum of three (3) test piles per bridge is required [one (1) nearest the deepest point of the channel profile and one (1) nearest the shallowest point of the channel profile]. A maximum number of test piles for each bridge will be determined by dividing the number of bents by two (2), unless authorized by the engineer in writing.
- Part 2:** Consists of sketching the bent and pile layout giving geographic references and nomenclature of test piles. This sketch (or a computer generated model) is to be included in the report. Numbering of bents shall begin at the abutment at the beginning of the bridge in the direction of control. Numbering of piles shall be from left to right when facing the bent in the direction of control. The route's direction of control is generally accepted as South to North or West to East. A control section manual containing beginning and ending points can be provided by DOTD.
- Part 3:** Consists of measuring the length of pile exposure to determine the deepest point along the profile of the bridge (either up-stream or down-stream). This measurement will be used to calculate the minimum pile penetration. Also, any channel or abutment revetment (stone or concrete) found must be documented and reported along with the length test

results. Any site location that has both concrete revetment and channel should not be tested, but brought to the Project Engineer's attention.

**Part 4:** Consists of producing all testing reports in Portable Document Format (PDF) recorded on a CD with files named using the LADOTD bridge Recall Number, and organized by District number on a monthly basis not to exceed 36 months after the Notice To Proceed (NTP) as issued by the DOTD. A copy of the raw data for each pile tested, arranged in a format acceptable to the engineer, and organized by pile name, recall number, and District number will be submitted by the end of 36 months after the Notice To Proceed (NTP) was issued by the DOTD.

**Stage 2: Screening of Scour Susceptible Bridges (Phase 1 Scour)**

**Part 1:** Consists of obtaining any additional plans or information missing from the information supplied by the DOTD and organizing the bridges by river or stream.

**Part 2:** Will consist of determining the drainage areas for the bridges, computing the 100 year frequency discharge for bridge sites with drainage areas greater than 25 square miles and performing a scour analysis using the factors established by DOTD.

The DOTD required factors are identified in the Phase I Scour Assessment Worksheet (Appendix A) and shall be included in the reports. An example can be found in Appendix A to this Scope of Services.

The Consultant will determine the hydrologic characteristics of each bridge site, including drainage area, discharge and pile penetration. The hydrologic information (drainage area and discharge) computed for each site will be gathered and catalogued for future reference by DOTD and other users requiring such information. The Consultant will provide all quadrangle maps required under this Phase and they will become part of the records for each site.

From information gathered from the reports, a list of scour susceptible bridges will be prioritized based on the Annual Average Daily Traffic (AADT) of the highway crossing the stream. This list will be used to determine the order in which the bridges will be analyzed in the next Stage. The

AADT information can be found in the current issue of the DOTD Highway Needs Summary for each district.

**Part 3:** Consists of general project management including meetings with DOTD to discuss progress, resolve any problems, and to file and organize the data. The use of DOTD microfilm files, microfilm reader/printers, construction plans, and Bridge Maintenance files should be scheduled as to not interfere with normal DOTD operations.

### **ADDITIONAL SERVICES**

The scope of services, compensation and contract time for future engineering services will be established by Supplemental Agreement(s) for the following:

- Stage 3: Scour Analysis of Selected Bridges (Phase 2 Scour)

All additional sub-consultants required to perform these services are subject to approval as per RS 48:290.D prior to execution of the supplemental agreement.

### **MINIMUM PERSONNEL REQUIREMENTS**

The following requirements must be met by the Prime-Consultant at the time of submittal:

1. At least one Principal of the Prime-Consultant must be a Professional Engineer registered in the State of Louisiana.
2. At least one Principal or other Responsible Member of the Prime-Consultant must be a Professional Civil Engineer, registered in the State of Louisiana.
3. In addition to the above, the Prime-Consultant must employ on a full-time basis a minimum of two Professional Engineers, registered in the State of Louisiana, one with a minimum of five years experience in Geotechnical Engineering, and two with a minimum of five years experience in Hydraulic Engineering, with corresponding support staffs.
4. The Prime-Consultant must also employ on a full-time basis, or through the use of a Sub-Consultant(s):
  - a. A minimum of two Professional Engineers, registered in the State of Louisiana, one with a minimum of five years experience in Geotechnical Engineering, and one with a minimum of five years experience in Hydraulic Engineering.

\* The “**Electronic Deliverables**” clause has been removed

## 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; \*
7. Cost (Consultant's proposed price - Attachment "A"), 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- 7. 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.

If Sub-Consultants are used, each member of the Consultant/Team will be evaluated on their part of the contract, proportional to the amount of their work. The individual team member ratings will then be added to arrive at the Consultant/Team rating.

The Project Selection Team 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.

## **ATTACHMENT "A"**

I/We propose to furnish all labor, materials, equipment, incidentals, etc. necessary to provide the scope of services as outlined in this RFQ for the rates of (include in Section 14 of S.F. 24-102):

### **TESTING OF UNKNOWN FOUNDATIONS**

#### **Stage 1: Field Data Collection**

**Cost of providing Non Destructive testing of in-situ bridge piles at bridges based on a average of five (5) piles per bridge. (Include costs for Stage 2). The percentages of these bridges are as follows: 50% timber, 42% concrete, 8% steel**

\$ \_\_\_\_\_ Price per pile (Concrete/Timber)

\$ \_\_\_\_\_ Price per pile (Steel)

#### **Stage 2: Phase 1 Scour Screening**

Included in price for Stage 1