

ENGINEERING AND RELATED SERVICES

August 8, 2008

STATE PROJECT NO. 700-99-0447 RETAINER CONTRACT FOR TRAFFIC SIGNAL STUDY AND DESIGN STATEWIDE

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 at the time of submittal.** One Prime-Consultant/Sub-Consultant(s) (Consultant/Team) will be selected for this Contract.

Project Manager – Ms. Jody Colvin may be reached at (225) 242-4635.

PROJECT DESCRIPTION

The consultant shall perform Statewide traffic engineering services such as but not limited to corridor studies, intersection studies, traffic signal studies, traffic signal design and traffic signal inventories for proposed projects covered by this Retainer Contract under separate Task Orders (TO's). The Consultant shall be required to execute a TO which shall specify the scope of engineering services, performance time and compensation. Each executed TO shall become a part of the Contract.

SCOPE OF SERVICES

The services to be rendered for this Retainer Contract shall consist of the following:

TASK 1.0 PROJECT MANAGEMENT

Initial Meeting- A meeting with the DOTD and the Consultant will be held at the beginning of each project task. The purpose of this meeting is to establish procedures, deliverables, and schedules. Information, where applicable such as Traffic Signal Inventory (TSI's), construction plans, as-built plans, traffic counts and signalization program sheets will be provided and/or requested at this meeting.

Monthly Reports- Monthly progress reports will be prepared by the Consultant to ensure that the project schedule is being kept. The report shall include a progress chart indicating percent of time elapsed and percent of work completed. The report shall include changes in project schedule or estimated construction cost. The report includes a discussion of the previous month's progress, problems that were encountered, unresolved issues, and anticipated work for the next month.

TASK 2.0 WARRANT ANALYSIS

The Consultant may be directed to conduct a study to run a warrant analysis for intersections. The Consultant may be required to collect the necessary traffic count data required to perform the warrant analysis as outlined in the Traffic Signal Design Manual.

TASK 3.0 TRAFFIC MODELING

The Consultant may be directed to perform traffic modeling simulation for designated locations throughout the STATE. Typically, these models will be developed to determine the benefits of potential improvements such as geometric modifications or traffic signal installations/modifications. For comparison purposes, models will be developed depicting conditions before and after planned improvements. The latest version of Synchro/SimTraffic or VisSim will be required depending on the situation. The Project Manager will direct the Consultant as to which model will be required. Benefits to be analyzed will include safety improvements and congestion relief.

Deliverables –The electronic copy of the models and a written report quantifying the results of the modeling effort. Reports shall include input data such as volumes, classifications and signal timings; and performance measures such as travel time, delay, speed variations, vehicle emissions and resulting safety enhancements.

TASK 4.0 DATA COLLECTION

The Consultant will be required to collect field data and perform studies and designs for geometric modifications, safety improvements, speed limits, signs, pavement markings, and other traffic control devices. The Consultant may be required to assist with development of traffic engineering policies, standards, and manuals.

A more detailed description of the Work Items shall be provided during the pre-design meeting.

TASK 5.0 TOPOGRAPHIC SURVEY

DOTD Supplied Survey- The topographic survey may be provided by the Department in electronic format. The Consultant shall layout the survey to a scale of 1"=20'. This layout will serve as the base drawing for the preliminary and final construction plans.

Consultant Survey- The Consultant may be required to perform the topographic survey for each of the project task orders issued. The topographic survey will be performed in basic accordance with the LA DOTD Location and Survey Manual. The survey will be drawn to a scale of 1"=20' and will serve as the base drawing for the preliminary and final construction plans.

Aerial Photography with Field Verification- As an alternate to a topographic survey, the Consultant may be required to utilize aerial photography as a base drawing for

preliminary and final construction plans. The Consultant shall field verify roadway geometry, existing signalization, and utilities with a distance wheel. The survey will be drawn to a scale of 1"=20' for full size and will serve as the base drawing for the preliminary and final construction plans.

TASK 6.0 INTERSECTION/CORRIDOR ANALYSIS

The Consultant may be required to perform an analysis on an individual intersection or on a corridor as a whole. This analysis may require data collection, warrant analysis, traffic modeling and software runs in Synchro/SimTraffic, VisSim and/or Sidra.

Cost Benefit Comparisons – At least 3 but preferably 5 alternatives shall be considered. Each alternative will compare: level of service at 1, 5, 10 and 15 years from build; cost to build; cost to maintain and the cost of any geometric changes or upgrades needed in the future.

Deliverables – Electronic copies of the software runs, written report containing all of the findings including the input data, travel times, signal timings etc.

TASK 7.0 SIGNAL DESIGN

Construction Sequence Design- For roadway projects, an analysis of the roadway construction sequence will be performed to determine and design a signal installation for each sequence of the project if a signal is to be installed at the intersection. The intermediate signal design(s) will be needed to replace the existing signal to construct the roadway and provide signalization control for each change in traffic patterns during roadway construction.

Timing and Phasing Assignments- This task will involve an operational capacity analysis on the turning movement traffic demand used to drive optimum timing and parameters for the signal operation. The Consultant may be required to perform a Warrant Analysis and Data Collection. The software used for analysis will be the latest version of Synchro and SimTraffic. The results if applicable from this software will be the HCM Level of Service, arterial progression timings, offsets, cycle length, splits and a time-space diagram. Also, a before and after delay study will need to be performed.

Hardware Location- A preliminary layout of signal poles, signal heads, overhead signs, detection (loops and/or video) and controller will be prepared prior to the field inspection. This layout will be the basis for conducting the field inspection.

Field Inspection- A field inspection of each intersection will be held. The Consultant will furnish the base drawing to the Department. A representative from Traffic Engineering, the District and the Consultant will attend the inspection. Unless otherwise determined through correspondence, the purpose of the inspection will be to locate existing and proposed signal equipment including poles, conduit, controllers, power

supply, and interconnect. During the inspection the Consultant will collect digital photography of the intersection.

Signal Sheets- Traffic signal plans may be developed for inclusion in roadway projects or a standalone traffic signal projects. For each signalized intersection two sheets shall be developed in accordance with the Department's Traffic Signal Design Manual. Standalone traffic signal projects will also require title sheets and summary of estimated quantity sheets, which shall be developed in accordance with the Department's Roadway Design Manual. Interconnected traffic signal systems shall also require traffic signal interconnect plan sheets.

Cost Estimate- The Consultant shall provide cost estimates of the project at preliminary plans and again at final plans.

Specifications/details- The Consultant may be directed to develop special provisions and/or details under this task.

Traffic Signal Inventory (TSI) Form- A completed TSI of each intersection shall be provided showing the traffic signal operation, timing and sketch from the plan sheet.

Deliverables-

Synchro/SimTraffic- A hardcopy of the report from Synchro shall be submitted along with the electronic copy.

Warrant Analysis- The hardcopy of the warrant analysis shall be submitted.

Counts- A hardcopy and a pdf copy of the counts shall be submitted.

Delay Study – A hardcopy of the delay study.

Final Plans- Two copies on bond paper of the final plans (including standard traffic signal and construction signing details) shall be provided. One copy shall be full size and one copy shall be half size. An electronic copy of the final plans shall be provided in Microstation. The Traffic Engineering Section shall be able to open and use this copy.

TSI- A hardcopy of the entire TSI shall be submitted along with the electronic copy in Microstation and Excel.

TASK 8.0 STAGE 0

The consultant may be required to prepare a project for Stage 0. The Consultant shall follow the LADOTD Project Delivery Manual. The following information should be included in the study: preliminary purpose and need; initial project concept; potential environmental impacts; preliminary scope and cost estimate; and expected funding sources.

Deliverables- A completed feasibility study as described in the Project Delivery Manual.

TASK 9.0 TRAFFIC SIGNAL TIMING INPUT AND TROUBLE SHOOTING

TRAFFIC SIGNAL TIMING INPUT: The Consultant will input timings into the controllers out in the field once the timings have been approved by Section 77. The Consultant will have to monitor timings during peak and off peak hours. The Consultant will be expected to “tweak” the timings once the timings are operating. The Consultant will be expected to run a before and after delay study to illustrate how the timings are operating.

Deliverables – TSI- A hardcopy of the entire TSI shall be submitted along with the electronic copy in Microstation and Excel.

Delay Study- A hardcopy of the before and after delay study

TASK 10.0 TRAFFIC SIGNAL INVENTORY

Gathering of Data/TSIs- The Consultant will verify the TSIs provided by DOTD Section 77 are the most current TSIs available by comparing these TSIs to TSIs located at each respective District Traffic Operations office. The Consultant will use the most current TSIs while performing these inventories.

Intersection Inventories- The Consultant will perform a field inspection at each intersection. The Consultant will complete inventory forms (provided by DOTD) and intersection sketches for each intersection. The inventory forms and intersection sketches will document the following information.

Inventory Forms

- a. TSI #
- b. GPS coordinates (Latitude and Longitude)
- c. Signal type
- d. Pedestrian crossing information
- e. Interconnect type
- f. Communication type
- g. Cabinet Mount Type
- h. Cabinet Type
- i. Controller Type
- j. Conflict monitor type
- k. Pole configuration
- l. Pole types
- m. Detection information
- n. Signal head information

Intersection Sketches

- a. TSI #
- b. Street names (State route #s/Name)
- c. North arrow
- d. Signal Layout (poles, cabinet, heads)
- e. Signal head numbers (based on TSI)
- f. Lane Numbers
- g. Lane assignments (left/through/right/etc.)
- h. Lane widths
- i. Turn lane storage lengths
- j. Median widths
- k. Shoulder widths
- l. Pavement markings

Collection of Signal Timing Parameters- The Consultant will manually retrieve signal timing parameters from each cabinet at each intersection inventoried. These timing parameters will consist of clearance intervals (yellow and red times), actuated parameters

(min green, MAX I/MAX II, passage time, min gap, etc.), and coordinated parameters (splits, offsets, cycles, time of operation, etc.) if applicable. If the controller is compatible with StreetWise the Consultant will use a copy of StreetWise provided by DOTD to extract the timing information. These timing parameters will be provided to DOTD in TSI format both electronic and hardcopy.

Deliverables- Completed signal inventory forms including intersection drawings shall be submitted. A hardcopy and a Microstation file of the intersection drawing shall be submitted. Also a hardcopy and an electronic copy of the TSI shall be submitted in Microstation and Excel.

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

COMPENSATION

Compensation to the Consultant for services rendered in connection with each TO shall be determined on the basis of a negotiated lump sum amount prior to each TO being issued.

The amount payable under this Retainer Contract for services to be performed under the various TO's shall not exceed a maximum of **\$1,500,000**. Each TO shall be payable under the respective TO project number which shall be obtained by the Project Manager.

All travel related expenses will be compensated under direct expenses, and will be in accordance with Louisiana Office of State Travel regulations found at: <http://www.doa.louisiana.gov/osp/travel/travelpolicy/travelguide.pdf>. Vehicle rental rates will require prior approval from the DOTD Project Manager.

CONTRACT TIME AND NOTICE TO PROCEED

This Retainer Contract shall be in effect for the duration of **three years**. The services to be performed for each Task Order (TO) will be determined prior to the execution of the TO. The Consultant will proceed with the services required in the TO upon issuance of the Notice to Proceed from the DOTD. The contract time for each TO, will be specified in the executed TO. Any TO in effect, prior to the expiration date of the Retainer Contract shall be completed.

MINIMUM PERSONNEL REQUIREMENTS

The following requirements must be met 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 Principle or a responsible member of the Prime-Consultant must be a Professional Traffic Operations Engineer (PTOE), registered in the State of Louisiana.
3. The Prime-Consultant must also employ on a full time basis, a minimum of two Professional Civil Engineers registered in the State of Louisiana, with at least five years of traffic analysis experience with signal warrants, signal timing, corridor studies, traffic impact studies, and traffic software experience (Vissim, Synchro, Sidra, HCM, Tepac, etc.), and a corresponding support staff.
4. The Prime-Consultant must also employ on a full-time basis, or through the use of a Sub-Consultant(s):
 - a. One Registered Professional Land Surveyor.

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, weighting factor of 5;
6. Location where the work will be performed, weighting factor of 4. *

*All respondents will receive a 4 for this category.

**The Traffic Analysis and Design (TR) performance rating will be used for this project.

This is a Complex/Specialty Project.

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. Then the rating will be multiplied by the corresponding weighting factor. The firm's ratings 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 presenting 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. 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 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 will submit semi-annual labor rate information, when requested by DOTD.

The selected Consultant 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 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.

Any Sub-Consultants to be used, including Disadvantaged Business Enterprises (DBE), in performance of this Contract, must also submit a SF 24-102, which is completely filled out and contains all information pertinent to the work to be performed.

The Sub-Consultant's SF 24-102 must be firmly bound to the Consultant's SF 24-102. In Section 9, the Consultant's SF 24-102 must describe the **work elements** to be performed by the Sub-Consultant(s), and state the approximate **percentage** of each work element to be subcontracted to each Sub-Consultant.

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. **700-99-0447**, and will be submitted **prior to 3:00 p.m. CST on Tuesday, September 2, 2008**, by hand delivery or mail, addressed to:

Department of Transportation and Development
Attn.: Mr. Edward Wedge, III, 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.