

**ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
JULY 9, 2024**

**CONTRACT NO. 4400029384
STATE PROJECT NO. H.010753.5
FEDERAL AID PROJECT NO. H010753
US 90/ I-310 INTERCHANGE
ST. CHARLES PARISH**

DBE GOAL = 5%

Under the authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues this advertisement for consulting firms to provide engineering and related services. **Consultants who are a Louisiana or foreign LLC or corporation should be appropriately registered with the Louisiana Secretary of State, as contemplated by Title 12 of the Louisiana Revised Statutes, and with the Louisiana Professional Engineering and Land Surveying (LAPELS) Board under its rules for firms. If a consultant is not in good standing in accordance with those provisions, it may be subject to consequences contemplated in Title 12 and/or the LAPELS rules. All requirements of LAPELS must be met at the time the proposal is submitted. Prime consultants must be registered with the Louisiana Secretary of State and the Federal Government, using SAM.gov, prior to contract execution.**

One (1) proposal will be selected for the contract solicited per this advertisement. Only one (1) DOTD Form 24-102 proposal is required for this advertisement, and it represents the prime consultant's qualifications and those of any and all sub-consultants proposed to be used for the referenced contract(s). All identifying contract number(s) should be listed in Section 2 of the DOTD Form 24-102. **USE THE DOTD FORM 24-102, DATED JANUARY 1, 2023, PROVIDED WITH THE ADVERTISEMENT.**

Any questions concerning this advertisement must be sent in writing to DOTDConsultantAds80@la.gov no less than 48 hours (excluding weekends and holidays) prior to the proposal deadline.

SCOPE OF SERVICES

The general tasks to be performed by the consultant for this contract are described more specifically in Attachment A, which is incorporated herein by reference.

The consultant shall perform the work in accordance with the requirements of this advertisement and the resulting contract. Deliverables shall be in such format as required in Attachment A. The work performed by the consultant shall be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The requirements set forth in Attachment B must be met at the time the proposal is submitted.

EVALUATION CRITERIA

The criteria to be used by DOTD in evaluating responses for the selection of a consultant to perform these services are listed below:

1. firm experience on similar projects, weighting factor of three (3);
2. staff experience on similar projects, weighting factor of four (4);
3. firm size as related to the project magnitude, weighting factor of three (3);
4. past performance on similar DOTD projects, weighting factor of six (6)*;
5. current work load with DOTD, weighting factor of five (5);
6. approach and methodology, weighting factor of nine (9).

*The consultant is to identify in the table below those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102.

THE FOLLOWING TABLE MUST BE COMPLETED AND INCLUDED IN SECTION 12 OF THE DOTD FORM 24-102 PROPOSAL.

<p>Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102*, the name of each firm that is part of the proposal, and the percentage of work in each past performance evaluation discipline to be performed by that firm. The percentage estimated for each evaluation discipline is for evaluation purposes only and will not control the actual performance or payment of the work. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract. (Add rows and columns as needed)</p>							
Past Performance Evaluation Discipline(s)	% of Overall Contract	Prime	Firm B	Firm C	Firm D	Firm E	Each Discipline must total to 100%
							100%
							100%
							100%
Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	100%						-----

*The past performance evaluation disciplines are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and/or Other (**please specify**).

If sub-consultants are used, the prime consultant must perform greater than 50% of the work for the overall contract.

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Proposals will be evaluated as set forth in the “Evaluation Criteria” section of this advertisement. 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 one (1) through five (5). The rating will then be multiplied by the corresponding weighting factor. The rating in each category will then be added to arrive at the proposal’s final rating.

DOTD’s Project Evaluation Team (PET) will be responsible for performing the above described evaluation, and will present a shortlist of the three (3) (if three are qualified), highest rated consultants to the Secretary of DOTD. The Secretary will make the final selection.

COMPLIANCE WITH SUPPLEMENTAL ETHICS REQUIREMENTS

DOTD has established supplemental ethics requirements applicable to consultants and PET members. These requirements are found in the “Supplemental Ethics Requirements” article of the sample contract linked to this advertisement, which are incorporated herein by reference. Any firm that is found to have violated these requirements may not be considered for this selection.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to comply with DOTD’s Supplemental Ethics Requirements.

RULES OF CONTACT UPON ADVERTISEMENT

DOTD is the single source of information regarding the contract selection. Any official correspondence will be in writing, and any official information regarding the contract will be disseminated by DOTD’s designated representative via the DOTD website. The following rules of contact will apply during the contract selection process, commencing on the advertisement posting date and ceasing at the time of final contract selection. Contact includes face-to-face communication, the use of a telephone, facsimile, electronic mail (email), or formal or informal written communications with DOTD. Any contact determined to be improper, at the sole discretion of DOTD, may result in the rejection of the proposal (i.e., DOTD Form 24-102).

Consultants and consultant organizations **shall correspond with DOTD regarding this advertisement only through the email address designated herein; DOTDConsultantAds80@la.gov** and during DOTD sponsored one-on-one meetings.

No consultant, or any other party on behalf of a consultant, shall contact any DOTD employee, other than as specified herein. This prohibition includes, but is not limited to, the contacting of: department, office, or section heads, project managers, members of the evaluation teams, and any official who may participate in the decision to award the contract resulting from this advertisement.

DOTD will not be responsible for any information or exchange that occurs outside the official process specified above.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to the communication protocol herein.

PROJECT TIME

The overall time for the completion of the scope of services is estimated to be **3 years**.

COMPENSATION

The compensation payable to the consultant for initial services rendered in connection with this contract is estimated at **\$500,000**. The maximum compensation for all services is estimated to be **\$1,400,000**. This estimate will be used for grading purposes only. Actual compensation will be determined by DOTD based on work hours negotiated between DOTD and the selected consultant. Within fifteen (15) calendar days of notification of selection, a kick-off meeting will be held with the selected consultant and appropriate DOTD personnel. The selected consultant will be required to submit a work hour proposal within thirty (30) calendar days following the notification of selection. All negotiations must be completed within the timeframe set forth in the Consultant Contract Services Manual.

Payment will be made based on lump sum. In addition, geotechnical services will be based on cost per unit of work and specific rates of compensation.

DIRECT EXPENSES

To the extent that the consultant is allowed to claim reimbursement for direct expenses, all direct expense items that are not paid for in the firm's indirect cost rate, and are, needed and will be consumed during the life of the contract must be identified by the consultant during contract development. The acquisition or rental of standard equipment or resources to be used in the provision of services rendered for this contract will not be considered for payment under direct expenses (e.g., vehicles for construction engineering and inspection (CE&I) inspectors).

The consultant should own most of the equipment required to provide the work and services. The cost of this equipment should be included in the consultant's indirect cost rate. Equipment may be considered "specialized" if it cannot be considered standard equipment for that particular consultant's normal operating business needs. If a consultant believes special equipment is needed for the contract, the consultant must inquire through the Question and Answer process, as provided herein, whether the identified item will be considered specialized equipment for the individual contract.

All travel related expenses will be compensated under direct expenses, and will be in accordance with the most current Louisiana Office of State Travel regulations as promulgated in the Louisiana Administrative Code under the caption "PPM No. 49", with the exception that compensation for vehicle usage will be based on actual miles traveled directly and exclusively related to project needs. Vehicle rental rates will require prior approval from the PM.

CYBERSECURITY TRAINING

In accordance with La. R.S. 42:1267(B)(3) and the State of Louisiana's Information Security Policy, if the Consultant, any of its employees, agents, or sub-consultants will have access to State government information technology assets, the Consultant's employees, agents, or sub-consultants with such access must complete cybersecurity training annually, and the Consultant must present evidence of such compliance annually and upon request. The Consultant may use the cybersecurity training course offered by the Louisiana Department of State Civil Service without additional cost or may use any alternate course approved in writing by the Office of Technology Services.

For purposes of this Section, "access to State government information technology assets," means the possession of credentials, equipment, or authorization to access the internal workings of State information technology systems or networks. Examples would include but not be limited to State-issued laptops, VPN credentials to credentials to access the State network, badging to access the State's telecommunications closets or systems, or permissions to maintain or modify IT systems used by the State. Final determination of scope inclusions or exclusions relative to access to State government information technology assets will be made by the Office of Technology Services.

QUALITY ASSURANCE/QUALITY CONTROL

DOTD requires the selected consultant and all sub-consultants to develop a Quality Assurance/Quality Control (QA/QC) program in order to provide a mechanism by which all deliverables will be subject to a systematic and consistent review. The selected consultant shall address in its plan the review of all sub-consultant work and deliverables. **Only the selected consultant must submit their QA/QC plan to the DOTD PM within 10 business days of the award notification to the consultant (do not include QA/QC plan in the DOTD Form 24-102).** Consultants must ensure quality and adhere to established DOTD policies, procedures, standards and guidelines in the preparation and review of all deliverables. DOTD may provide limited input and technical assistance to the consultant. Any deliverables to be transmitted by the consultant shall be transmitted with a DOTD Quality Assurance/Quality Control Checklist, and a certification that the deliverables meet DOTD's quality standards.

If Attachment A includes specific QA/QC requirements that contradict those set forth above, the requirements in Attachment A control.

TRAFFIC ENGINEERING PROCESS AND REPORT TRAINING REQUIREMENTS

As part of DOTD's on-going commitment to high quality traffic engineering reports, a traffic engineering training course must be taken by traffic engineering PEs and EIs in order to be eligible to work on DOTD projects. When traffic is included as a discipline on which past performance is evaluated, for consultants performing traffic engineering services (i.e., traffic analysis throughout all DOTD project stages and/or QC of traffic analysis), appropriate personnel must successfully complete the three (3) modules of the Traffic Engineering Process and Report Course offered by Louisiana Transportation Research Center (LTRC). This Course must be completed no later than the time the proposal is submitted or show proof of registration for the Course from the LTRC's Registration site. **Copies of training certificates or proof of registration are to be included in**

Section 20 of the proposal.” It will be the prime consultant’s responsibility to ensure their staff and sub-consultants complete the training. Copies of training records may be obtained from the LTRC website <https://registration.ltrc.lsu.edu/login>.

WORK ZONE TRAINING REQUIREMENTS

As part of DOTD’s on-going commitment to work zone safety, required work zone training courses must now be taken every four (4) years in order for personnel to remain eligible to work on DOTD projects. For consultants performing preconstruction services (*e.g.*, design, survey, subsurface utility, geotechnical, traffic, bridge inspection, environmental services), appropriate personnel must successfully complete these courses. In general, the person in responsible charge of traffic control plans shall be required to have Traffic Control Supervisor training. For preconstruction field services performed within the clear zone, at least one (1) member of the field crew shall have Traffic Control Supervisor or Traffic Control Technician training. The consultant should identify all personnel listed in the staffing plan (Section 14) for the contract who have completed the appropriate work zone training courses. All preconstruction work zone training requirements shall be met **prior to contract execution**. It will be the prime consultant’s responsibility to ensure their staff and sub-consultants have the appropriate work zone training.

In addition to the above requirements, if the Scope of Services set forth in Attachment A includes Construction Engineering and Inspection (CE&I), the following training requirements shall be met **at the time the proposal is submitted**:

Field Engineers:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Engineer Interns:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Senior Technicians, Survey Party Chiefs, and SUE Worksite Traffic Supervisors*:	Traffic Control Technician Traffic Control Supervisor Flagger
Other Field Personnel*:	Traffic Control Technician Flagger

* excluding Asphalt Plant Inspector, Paint Managers, and Paint Inspectors

Approved courses are offered by ATSSA and AGC. Substitutes for these courses must be approved by the DOTD Work Zone Task Force. For more information, please contact DOTD HQ Construction at 225-379-1584. Specific training course requirements are:

Flagger:	Successful completion every four (4) years of a work zone flagger course approved by the Department. The “DOTD Maintenance Basic Flagging Procedures
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Workshop” is not an acceptable substitute for the ATSSA and AGC flagging courses.

Traffic Control Technician (TCT): Successful completion every four (4) years of a work zone traffic control technician course approved by the Department. After initial successful completion, it is not necessary to retake this course every four (4) years if Traffic Control Supervisor training is completed every four (4) years.

Traffic Control Supervisor (TCS): Successful completion of a work zone traffic control supervisor course approved by the Department. Following an initial completion, traffic control supervisors must either complete a one (1)-day TCS refresher course or retake the original two (2)-day TCS course every four (4) years.

ATSSA contact information: (877) 642-4637

*****ALL WORK ZONE TRAINING CERTIFICATIONS MUST BE ACTIVE*****

REFERENCES

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

1. AASHTO Standards – The American Association of State Highway Transportation Officials
<https://www.transportation.org/>
2. AASHTO – A Policy on Geometric Design of Highways and Streets –
https://bookstore.transportation.org/collection_detail.aspx?ID=110
3. ASTM Standards – <https://www.astm.org/BOOKSTORE/BOS/index.html>
4. CyberSecurity Training –
<https://forms.gle/deZGAo5hUMWeSG4P6>
5. DOTD – Bridge Design and Evaluation Manual (BDEM) –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BD_EM.aspx
6. DOTD – Complete Streets –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CompleteStreets/Pages/default.aspx
7. DOTD – Construction Contract Administration Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pages/Engineering_Docs.aspx

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8. DOTD – Consultant Contract Services Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Manuals/CCS%20Manual%20rev%20Dec%202020.pdf
9. DOTD – Hydraulics Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Public_Works/Hydraulics/Documents/Hydraulics%20Manual.pdf
10. DOTD – Location and Survey Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location_and_Survey_Manual.pdf
11. DOTD – Addendum “A” to the Location & Survey Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location%20and%20Survey%20Manual%20-%20Addendum%20A.pdf
12. DOTD – Louisiana Standard Specifications for Roads and Bridges –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications/Pages/Standard%20Specifications.aspx
13. DOTD – Materials Sampling Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_MSM.aspx
14. DOTD – Minimum Design Guidelines –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Memoranda/Minimum%20Design%20Guidelines.pdf
15. DOTD – Off-System Highway Bridge Program Guidelines –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Manuals/Other%20Manuals%20-%20Guidelines/2019%20Federal%20Aid%20Off-System%20Highway%20Bridge%20Program%20Guidelines.pdf
16. DOTD – Roadway Design Procedures and Details Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Pages/Road-Design-Manual.aspx
17. DOTD – Stage 1 Planning/Environmental Manual of Standard Practice –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Environmental/Pages/Stage_1.aspx
18. DOTD – Testing Procedures Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_TPM.aspx
19. DOTD – Traffic Engineering Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
20. DOTD – Traffic Engineering Process and Report –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/ManualsPublications/Pages/TEPR.aspx

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21. DOTD – Traffic Signal Manual –
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Traffic%20Control/Traffic%20Signal%20Manual%20V3%20-%207.1.20.pdf
22. e-CFR – Electronic Code of Federal Regulations (all applicable) –
<https://ecfr.io/>
23. FHWA – Bridge Inspector’s Reference Manual (BIRM) –
website: <https://www.fhwa.dot.gov/bridge/nbis.cfm>
manual: <https://www.fhwa.dot.gov/bridge/nbis/pubs/nhi12049.pdf>
24. FHWA – Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) –
<http://mutcd.fhwa.dot.gov/>
25. National Electrical Safety Code (NESC) –
<https://standards.ieee.org/products-services/nesc/index.html>
26. NFPA 70 – National Electrical Code (NEC) –
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70>
27. NEPA – National Environmental Policy Act –
<https://www.epa.gov/nepa>

CONTRACT EXECUTION REQUIREMENTS

The selected consultant will be required to execute the contract within ten (10) days after receipt of the contract.

A sample of the contract provisions can be found at the following link: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Pages/Advertisements.aspx.

DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENT

This advertised contract has a Disadvantaged Business Enterprise (DBE) goal of **5%** of the contract fee. Credit for DBE participation will be limited to the firms certified pursuant to the Louisiana Unified Certification Program. For convenience, DOTD provides a list on its website (<http://www8.dotd.la.gov/UCP/UCPSearch.aspx>) of firms that have been certified as eligible to participate as DBEs on US DOT assisted contracts. This list is not an endorsement of the quality of performance of any firm but is simply an acknowledgment of the listed firms’ eligibility as a DBE. DOTD makes no representations of the accuracy or completeness of this list on any particular date or time. Prime consultants considering the use of a particular DBE sub-consultant are advised to obtain documentation of certification status from that sub-consultant prior to submission of DOTD Form 24-102.

Prime consultants must specify by firm name in Section 11 on the DOTD Form 24-102 all DBE firms which the prime intends will participate in providing services under the contract to meet the DBE goal and indicate for each the percent of the contract fee for the services that will be performed by each specified DBE firm. If the prime did not succeed in obtaining enough DBE

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participation to meet the goal, it must attach to the DOTD Form 24-102, behind Section 23, documentation of its good faith efforts to meet the goal.

REVISIONS TO THE ADVERTISEMENT

DOTD reserves the right to revise any part of the advertisement by issuing addenda to the advertisement at any time. Issuance of this advertisement 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 DOTD Form 24-102s submitted, and/or cancel this consultant services procurement if it is determined to be in DOTD's best interest. All materials submitted in response to this advertisement become the property of DOTD, and selection or rejection of a proposal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the advertisement.

CLARIFICATIONS

DOTD reserves the right to request clarification of ambiguities or apparent inconsistencies found within any proposal, if it is determined to be in DOTD's best interest.

PROPOSAL REQUIREMENTS

The consultant's proposal for this advertisement must be submitted by email to DOTDConsultantAds80@la.gov. **USE THE DOTD FORM 24-102, DATED JANUARY 1, 2023, PROVIDED WITH THE ADVERTISEMENT.** Hard copies of the consultant's proposal are not required. All proposals must be in accordance with the requirements of this advertisement, and the Consultant Contract Services Manual. Unless otherwise stated in this advertisement, copies of licenses and certificates are not required to be submitted with the proposal.

If more than one (1) contract is to be selected based on this advertisement, no prime consultant is allowed to be a sub-consultant on any other consultant's 24-102. If a prime consultant is submitted as a sub-consultant on another consultant's 24-102, its proposal as a prime consultant may be deemed non-responsive.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

DOTD employees may not submit a proposal, nor be included as part of a consultant's proposal.

Contract and/or part-time employees are allowed. Such employees should be shown in Section 14 of the DOTD Form 24-102 with an asterisk denoting their employment status.

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The DOTD Form 24-102 **PDF file shall be labeled** “**CONTRACT NO. 4400029384 Consultant’s name**”, and **must be received no later than 3:00 p.m. Central Time by DOTDConsultantAds80@la.gov via email on Wednesday, July 31, 2024.** The PDF file must be attached in the email or as a hyperlink in the email or as an email through third-party file transfer websites such as Dropbox or WeTransfer.

Please note that delivery failure may occur on email files exceeding 25MB uncompressed. In addition, all emails are scanned for cybersecurity threats prior to delivery to DOTDConsultantAds80@la.gov; **therefore, allow sufficient time** for this process to take place when submitting your proposal.

ATTACHMENT A – SCOPE OF SERVICES

The project time is typical.

The home office indirect cost rate shall be applicable to all services except as otherwise designated hereafter.

The Consultant shall provide engineering and related services for the design and development of construction plans for the intersection improvements of US 90 with I-310 northbound and Tiger Drive, as well as widening of US 90 between Tiger Drive and LA 52.

The services to be performed are described more specifically as follows:

TASK 1: PROJECT MANAGEMENT

Project Initiation

The Consultant shall schedule a kick-off meeting with the DOTD Project Manager and project team according to the Schedule of Deliverables. The Consultant is responsible for setting up the project kick-off meeting which will include but not limited to the meeting agenda, miscellaneous handouts, and project schedule. Agenda items for this meeting shall include the review points and durations, time-frame assumptions built into the project schedules, invoicing procedures, progress reporting, and rating criteria. The Consultant is responsible for meeting minutes which shall be provided to the DOTD Project Manager within three (3) business days following the meeting.

Project Tracking and Management

The Consultant is responsible for project tracking and will ensure all tasks are completed on schedule. All correspondence shall include applicable state project numbers, along with the project names, route number, parish, and federal aid project numbers. The Consultant shall provide the Project Manager with a monthly project schedule (in Microsoft Project) and progress report including the estimated and actual date of completion of each task to be performed. The Consultant shall provide the Project Manager with monthly invoices using the DOTD's standard form for invoicing. The Consultant shall provide a completed Contract Tracking spreadsheet with each invoice.

The Consultant shall coordinate with and provide the DOTD Project Manager with monthly updates. It is anticipated that the Consultant will have periodic coordination meetings with the DOTD Project Manager during the course of the project to review the project status and address any concerns of the DOTD.

Deliverables: Submittal of monthly project schedule, progress report and invoices, meeting minutes.

TASK 2: ROAD DESIGN

Preliminary Plans

Preliminary Plans shall consist of all engineering services required for the completion of Preliminary Plans and cost estimates for the project. Specifically, the work under this Task consists of the following major items:

1. The assembly and study of existing data, including, boring information, if any, traffic data available through the DOTD, and such other data as can be located through efforts of the Consultant.
2. The design and preparation of completed detailed Preliminary Plans drawn to acceptable scales for the project.
3. The preparation of estimates of construction contract costs based on estimated quantities developed for the Preliminary Plans.
4. Submittal of the completed QA/QC checklist and Design Report.
5. Attendance and participation at the plan-in-hand meeting.
6. Submittal of PDF's of the plan sheets at each milestone. Shall be properly indexed and contain a copy of all design computations used in developing the drainage design data for culverts and storm sewers, as applicable. The submittal shall be accompanied by a written certification from the Consultant that a detailed check of such computations by qualified personnel has been made prior to submission. At any stage of the plan development process, plan delivery by other methods may be required. That includes, but is not limited to, the uploading of the plans to ProjectWise.

Additional Comments

1. Design for Preliminary and Final Plans shall be done in English units of measure.
2. Electronic files will be in MicroStation and Inroads formats and certified by CAD conform.
3. The Consultant shall keep a log of all Agency provided comments and shall provide DOTD with a disposition of comments response following each plan submittal.
4. The design format for this improvement shall comply with the criteria prescribed in 23 CFR 625, Design Standards for Highways. The format of the plans shall conform to the standards used by the DOTD in the preparation of its contract plans for items of work of similar character, including plans for all drainage and utilities affected.

TASK 3: GEOTECHNICAL DESIGN

The geotechnical portion of this project will consist of furnishing geotechnical investigation services and foundation design for the following proposed widening and new alignment of the on ramp from US 90 East to I-310 North. This scope assumes three (3) 120-foot deep borings within the embankment area and twelve (12) 10-foot deep shallow subgrade soil survey borings with associated pavement coring.

The following scope is applicable to the typical widening of the road anticipated for this project.

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The number of borings is estimated based on road length and conforms to typical DOTD practice and AASHTO requirements. A shallow subgrade soil survey boring shall also be made along the road within the limits of this project. The Consultant shall notify DOTD immediately if it becomes evident that a particular site requires geotechnical investigation and/or engineering efforts that are beyond this scope, including additional borings.

Geotechnical Investigation

The Consultant shall perform a geotechnical investigation consisting of soil borings, laboratory testing, soil classification, site characterization, and soil boring logs. In addition to the referenced ASTM designations, refer to *FHWA Geotechnical Engineering Circular No. 5* (GEC 5) for best practices pertaining to geotechnical site characterization.

Field Investigation – Deep Borings

The field investigation shall consist of soil borings with laboratory testing. Borings shall be made to a minimum depth of 60 feet below existing grade; however, actual depths may need to be deeper depending on the anticipated fill heights.

Water level readings shall be made in all soil borings. If the field investigation requires multiple days to complete, at least one 24-hour water level observation shall be made. Boring locations may be located initially using a hand-held GPS. Final coordinates and elevations shall be surveyed to a horizontal and vertical accuracy of at least 6 inches.

Sampling

Soil borings shall be made using wet/mud rotary methods below the water table, with solid-stem augering (ASTM D1452) permissible above the water table. Sampling shall consist of pushing thin-walled Shelby tubes in cohesive soils (ASTM D1587) and Standard Penetration Testing (SPT) in cohesionless soils (ASTM D1586). Continuous sampling shall be performed within at least the upper 10 feet, followed by either:

- Sampling at 5-foot centers in cohesive soils, or
- Sampling at 3-foot centers in cohesionless soils.

Shelby tube sampling in cohesionless soils and SPT sampling in cohesive soils will not be allowed, except on a case-by-case basis where Shelby tubes cannot be pushed into very hard cohesive soils. When a Shelby tube is retrieved with no recovery, the hole shall be cleaned out and a SPT shall be performed directly below the previous sampling interval.

Borehole Abandonment

Boreholes shall be backfilled in accordance with all local, State, and Federal regulations. Refer to the *Construction of Geotechnical Boreholes and Groundwater Monitoring Systems Handbook* for State regulations in the making of boreholes.

Sample Storage and Transport

The following practices shall be observed during transport and storage of the samples:

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- Cohesive samples may be extruded in the field provided they are stiff enough to be wrapped and transported, otherwise, samples shall be extruded at the laboratory;
- Shelby tubes not extruded in the field shall be sealed using expansion packers to prevent moisture loss and disturbance;
- Samples shall be extruded using 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, not caught by the hand; and
- Samples shall be transported vertically in the same orientation that they were sampled.

Follow ASTM D4220 for sample transportation except as noted herein.

Field Logs

Soil borings shall be logged in the field using the visual-manual method for classification (ASTM D2488).

Field Investigation – Shallow Subgrade Soil Survey

Subgrade soil survey borings can be made utilizing continuous-flight augers, pneumatic, or direct-push sampling. Shallow soil investigation that require in situ strength parameters shall be tested using the dynamic cone penetrometer (DCP) according to DOTD – TR 645-10. The following guidelines should be followed to determine the geotechnical investigation requirements:

New Construction and Widened Areas

A subgrade soil survey is to be performed at proposed new construction and widening areas to determine existing soil properties. Shallow soil borings for new pavement construction, including the widening of existing pavements, are taken approximately every 1,000 feet along the new roadway alignment. The depth of each boring should be at least 8 feet below the finished roadway elevation or natural ground, whichever is greater, with additional testing requirements for areas of cut/fill greater than 10 feet. DCP testing should be performed every 2,000 feet (or at every other boring location) to a minimum depth of 36 inches into the subgrade.

Reconstruction and Overlay Sections

For reconstruction and overlay areas, shallow soil borings are taken approximately every 1,000 feet along the alignment (or next to the existing shoulders) to a depth of 4 feet below the existing roadway and no less than 2 feet below the bottom of the base course, whichever is greater. Pavement cores shall be taken at proposed overlay locations to determine existing pavement surface type, existing base material type and their corresponding thicknesses. Pictures of the pavement core samples shall be provided with the lab report. DCP testing should be performed every 2,000 feet (or at every other pavement core/boring location) to a minimum depth of 36 inches into the subgrade.

Pipe Crossings/Pipe Locations

PH & Resistivity information should be obtained at pipe crossings/locations to determine the material of the pipe that is to be used for the project.

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Additional information regarding the pavement structure design and subsurface investigation requirements is provided by the Pavement and Geotechnical Engineer Administrator in accordance with DOTD's Pavement Design Guide (DOTD 2013 or latest edition).

In these cases of excessive cut/fill heights, deep soil borings may be more appropriate.

Laboratory Testing

All laboratory testing shall conform to applicable ASTM and AASHTO test designations.

Deep Borings

The following laboratory tests shall be performed, at a minimum:

- Moisture content (ASTM D2216) – all samples;
- Unconsolidated-undrained triaxial compressive strength (ASTM D2850) – 75% of all cohesive samples;
- Atterberg Limits (ASTM D4318) – 75% of all cohesive samples; and
- Grain size testing (ASTM D1140 and ASTM D6913) – as needed to classify granular soils.

One-dimensional consolidation tests (ASTM D 2435) shall be performed where significant settlement is expected due to fill. A minimum of two (2) consolidation tests shall be performed per applicable boring.

Dry preparation methods shall not be used for any deep borings.

Extrusion Logs

While extruding soil samples from deep borings in the lab, an extrusion log shall be made using the visual-manual classification method. New pocket penetrometer readings shall be made on representative portions of the samples.

Shallow Subgrade Soil Surveys

The different layers of the soil strata shall be identified every foot or strata break at the discretion of the lab engineer of record using the AASHTO classification system (ASTM D3282, AASHTO M 145) and the following tests:

- Atterberg Limits (ASTM D4318) – 100% of all cohesive samples; and
- Moisture content (ASTM D2216) – all samples;
- Water table depth
- Grain size testing (ASTM D1140 and ASTM D6913) – as needed to classify granular soils;
- Hydrometer tests (ASTM D7928)
- Percent Organics (ASTM D2974)
- pH (ASTM G51) and resistivity (AASHTO T 288) – as needed, at applicable pipe crossings.

Dry preparation methods (ASTM D421) shall be used where applicable to test shallow subgrade soil survey samples.

Site Characterization & Boring Logs

For deep borings, the Consultant shall use the field and laboratory data to classify the soils according to the Unified Soil Classification System (USCS) (ASTM D2487). The results shall be presented in the Geotechnical Data Report (discussed below) and on full-size plan sheets on soil boring logs adhering to either the standard DOTD boring log format, or the Consultant's own 8.5" x 11" format.

GEOTECHNICAL ENGINEERING DESIGN

The following geotechnical design elements are anticipated for this project. Should the project scope change from these assumptions, DOTD should be notified immediately.

Embankment Slope Stability

Slopes steeper than 3(H):1(V) shall be analyzed for slope stability using the Spencer method. The following maximum resistance factors and equivalent factors of safety shall be considered for slope stability:

- Typical conditions: $\phi = 0.75$ (equivalent minimum FoS ≈ 1.3);
- Critical slopes (Interstate, slopes with structures, etc.): $\phi = 0.65$ (equivalent minimum FoS ≈ 1.5); and
- Rapid drawdown: $\phi = 0.85$ (equivalent minimum FoS ≈ 1.2).

All potential governing geometry, groundwater, surface water, and other loading conditions shall be considered for drained and undrained conditions as applicable.

Embankment Settlement

The placement of new embankment fill and/or earth retaining structures may induce settlement of existing subsurface soils. Analyses shall be performed to estimate the total magnitude of consolidation settlement, time-rate of settlement, and effect of settlement on adjacent structures, utilities, or improvements. The goal of the analyses shall be to limit the post-construction settlement to 1 inch or less under new embankments and earth retaining structures, prevent damage to existing improvements, and limit the effects of downdrag on adjacent (new or existing) foundations.

If necessary, recommendations shall be made for mitigation measures such as ground improvement, load transfer platforms, lightweight fills, surcharging, and/or wick drains. Recommendations for settlement monitoring programs shall be provided if measures other than those in the Louisiana Standard Specifications for Roads and Bridges are needed.

Earth Retaining Structures (ERS)

When adequate space is not available for a slope, an earth retaining structure may be necessary. The DOTD has used mechanically stabilized earth (MSE) walls, gravity concrete walls, sheet pile walls, and others. If necessary, the Consultant shall select the most appropriate wall type for the specific project and evaluate the following, at a minimum:

- Global stability check of ERS;
- External stability check of ERS;

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- Settlement analysis of ERS;
- Deflection, section type, and anchor system recommendations for sheet pile walls;
- Analysis of governing load conditions under drained and undrained soil conditions; and
- Analysis of any other critical/governing configurations of the ERS.

The DOTD developed “MSEW Design Guide, G.E.D.G. No. 8,” latest edition may be used as a reference. Only DOTD approved wall systems will be allowed. Minimum embedment requirements and backfill material requirements must be included in the plans.

If sheet piles will be required to construct the design, sheeting must be designed by the Geotechnical engineer and section type, tip elevations, cutoff elevations, and stationing must be provided in plans. Calculations should include appropriate undrained and drained soil conditions and estimated long-term and short-term deflections. The resistance factors from the AASHTO Bridge Design Specifications, latest edition, shall be used to design sheet pile walls. A minimum factor of safety of 1.5 shall be applied to the passive resistance when evaluating sheet pile walls. The USACE Design Guide titled “EM-1110-2-2504- Design of Sheet Pile Walls” may be used as a reference.

DELIVERABLES

The following deliverables shall be provided during the course of the geotechnical investigation:

Geotechnical Investigation Plan

Prior to beginning the field work associated with the geotechnical investigation, submit a site layout with proposed boring locations for review and approval. Additionally, coordinate with district personnel and provide traffic control plan if traffic will be affected. Traffic control plan should include anticipated dates of road/lane closure and limits of road/lane closure. Final traffic control plan should be submitted 60 days prior to anticipated closure dates.

Geotechnical Data Report

The Consultant shall furnish a final Geotechnical Data Report (GDR) detailing the results of the subsurface investigation. The GDR will be included in the bid documents and shall contain only factual information and no opinions or engineering recommendations. As such, it shall be signed but not sealed. The GDR shall include, at a minimum:

- 1) Cover letter with executive summary describing the subsurface investigation;
- 2) Table of contents;
- 3) Report body containing the following sections, at a minimum:
 - a. Project Description;
 - b. Summary of subsurface investigation, including description of methods and standards used; and
 - c. Summary of laboratory testing performed, including description of methods and standards used.
- 4) Appendix containing the following items, at a minimum:
 - a. Boring plan;
 - b. General bridge plan & profile sheet used to establish the boring locations;

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- c. Soil boring logs;
- d. Plots of grain size distribution curves and consolidation tests, as applicable; and
- e. Laboratory test data sheets, including extrusion logs, stress vs. strain plots for triaxial testing, consolidation test deformation vs. time plots (when applicable), Atterberg Limit worksheets, etc.

Geotechnical Interpretation Report

The Consultant shall furnish a final Geotechnical Interpretation Report (GIR) detailing assumptions, design methodologies, and final recommendations. The report shall be signed and sealed by a Professional Civil Engineer registered in the State of Louisiana, and shall include the following items, at a minimum:

- 1) Cover letter with executive summary describing the project scope. All plan-related notes and tables shall be provided in the cover letter;
- 2) Table of contents;
- 3) Report Body containing the following sections, at a minimum:
 - a. Project Description:
 - i. Summary of project scope;
 - ii. Summary of subsurface investigation; and
 - iii. Summary of laboratory testing performed.
 - b. Subsurface Conditions:
 - i. Generalized subsurface profile; and
 - ii. Summary of groundwater conditions.
 - c. Slope Stability Recommendations (if applicable)
 - d. Embankment Settlement Recommendations (if applicable)
 - e. Earth Retaining Structures Recommendations (if applicable)
- 4) Appendix containing the following items, at a minimum:
 - a. Any revised documents from the GDR, such as boring plans or soil boring logs;
 - b. Plots of relevant soil data versus elevation including the interpreted design profile for each design site; and
 - c. Input and output from settlement, slope stability, and ERS analysis software.

Report Format

The report shall be submitted in electronic format as a searchable .pdf file with bookmarks denoting the various sections of the report. Report body, charts, and figures shall be generated directly from the source applications in order to minimize file size. Documents scanned as raster images shall only be used when no other option exists for their inclusion into the report. All pages shall print to either 8.5" x 11" or 11" x 17" without scaling or adjustment.

Geotechnical Data

All geotechnical data shall be furnished to DOTD in a gINT file cloned from DOTD's standard gINT schema. Other formats or gINT files containing a modified schema/structure will not be accepted. A copy of the standard template will be provided upon request.

Soil Boring Logs

At a minimum, the following results must be displayed on the boring logs in the specified units:

- Depth Below Ground Surface and Elevation (ft);
- Graphical representation of Soil Stratigraphy and Sample Type;
- Graphical and text representation of Groundwater Table;
- Sample Identification;
- Wet Density (pcf);
- Moisture Content and Atterberg Limits (%);
- Percent Passing the No. 200 Sieve (%);
- Compressive Strength (tsf), Triaxial Cell Pressure (psi), and Failure Mode;
- SPT results for each 6-inch increment, reported N Value (blows/ft), and SPT Termination Code;
- Date of Boring;
- Crew Chief, Drill Rig Model, SPT Hammer Type & Efficiency;
- Drilling Method, Hole Diameter, and Backfill Type;
- Latitude, Longitude, Elevation, and other relevant location information;
- Bridge Recall Number; and
- Other relevant notes describing observations made during drilling or laboratory testing.

In addition to the USCS classification, the soil descriptions shall include soil consistency/strength, color, and other details or inclusions such as seams, nodules, organics, etc.

Shallow Subgrade soil survey borings shall be presented in a tabular format containing all test results and classified using the AASHTO soil classification method. A soil subgrade plan sheet shall be developed to be incorporated into the final set of plans.

The Consultant cannot proceed to final plans until environmental has been cleared.

ADDITIONAL SERVICES

The scope of services and compensation for the following additional services will be authorized by Supplemental Agreement:

- Final Plans
- Traffic Management Plan (TMP)
- Property Survey
- ROW Maps
- Construction Support
- Shop Drawings

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY DOTD

In addition to any services previously indicated to be performed by the DOTD, the following services and data shall also be provided, if available.

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- Access to Standard Plans
- Access to As-Built Plans
- Topographic Survey
- Subsurface Utility Engineering
- Existing Drainage Map
- Pavement Design
- Traffic Data Study
- Environmental Documentation

ELECTRONIC DELIVERABLES

Consultant hereby agrees to produce electronic deliverables in conformance with DOTD Software and Deliverable Standards for Electronic Plans document in effect as of the effective date of the most recent contract action or modification, unless exempted in writing by the Project Manager. Consultant is also responsible for ensuring that sub-consultants submit their electronic deliverables in conformance with the same standards. DOTD Software and Deliverable Standards for Electronic Plans document and DOTD CAD Standards Downloads are available via links on the DOTD web site.

Consultant shall apply patches to CAD Standard Resources and install incremental updates of software as needed or required. Consultant hereby agrees to install major updates to software versions and CAD Standard Resources in a timely manner. Major updates of CAD standards and software versions shall be applied per directive or approval of the DOTD Design Automation Manager. Such updates will not have a significant impact on the plan development time or project delivery date, nor will they require Consultant to purchase additional software. Prior to proceeding with plan development, Consultant shall contact the Project Manager for any special instructions regarding project-specific requirements.

In the event that any Digital Plan Delivery Standard conflicts with written documentation, including DOTD plan-development Manuals, the Digital Plan Delivery Standard governs. Consultant is responsible for contacting the Project Manager should questions arise.

Consultant shall upload (or check in) electronic deliverables directly into the DOTD ProjectWise repository at each plan delivery milestone. Consultants are responsible for performing certain operations at each milestone including, but not limited to, the following:

- Upload (or check in) CAD plan deliverables to the discipline “Plans” folder
- Apply and maintain indexing attributes to CAD plans (and other deliverables as needed)
- Publish PDF format plan submittals in ProjectWise using automated publishing tools
- Digitally sign PDF format plan submittals in ProjectWise according to DOTD standards and procedures (Final Plans, Revisions and Change Orders). Signatures shall be applied in signature blocks provided with electronic seals and Title Sheets.

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Additionally, after reviewing deliverables for each submittal milestone, the Project Manager shall notify Consultant regarding the availability of two automatically-generated informational reports in ProjectWise. These reports document the completion status and other information regarding indexing attributes and CAD standards. Consultants shall take these reports into account and make any necessary adjustments to plans before the next submittal milestone; or sooner, if directed by the Project Manager.

ATTACHMENT B – MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The following requirements must be met at the time the proposal is submitted:

1. At least one (1) principal of the prime consultant shall be a registered professional engineer in the state of Louisiana.
2. At least one (1) principal or other responsible member of the prime consultant shall be currently registered in the state of Louisiana as a professional engineer in civil engineering.
3. At least one (1) principal or responsible member of the prime consultant shall be a professional civil engineer, registered in the state of Louisiana, and shall have a minimum of ten (10) years of experience in responsible charge of transportation projects.
4. At least one (1) professional engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in roadway design.
5. At least one (1) professional engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in bridge design.
6. At least one (1) professional engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in geotechnical engineering.
7. At least one (1) professional land surveyor, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in responsible charge of performing property surveys and preparing ROW maps for DOTD.

**MPRS ARE TO BE MET BY SEPARATE INDIVIDUALS,
UNLESS STATED OTHERWISE BELOW.**

MPR Nos. 1 through 3 may be met by the same person.

MPR Nos. 4 through 7 may be satisfied through the use of a sub-consultant(s).

NOTE: WHEN SATISFYING A MINIMUM PERSONNEL REQUIREMENT, PLEASE ENSURE THE RÉSUMÉ REFLECTS REQUIRED EXPERIENCE AS REQUESTED.

- Please note the number of MPRs are minimal; however, all relevant personnel necessary to perform the Scope of Services must be identified in Section 14 of the DOTD Form 24-102 and their resumes included in Section 16 of the DOTD Form 24-102.