ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
AUGUST 12, 2025

ENTITY CONTRACT NO. 4400032380
STATE PROJECT NO. H.016019.5
FEDERAL AID PROJECT NO. H016019
DOWNING PINES RD: ROUNDABOUT AT MANE ST
OUACHITA PARISH

DBE GOAL = 4%

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 PROVIDED WITH THE ADVERTISEMENT.**

The contract will be between the selected consultant and the **City of West Monroe**, referred to as the "**Entity**".

DOTD Contract Manager (CM) – Melissa LeBas

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

*The Consultant is to identify in the table below those 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.

Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those 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 discipline to be performed by that firm. The percentage estimated for each 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 discipline, as well as the overall total percent of the contract. (Add rows and columns as needed)							
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 disciplines are: Appraiser, Bridge, CE&I/OV, CPM, Data Collection, Environmental, Geotech, ITS, Other (must specify), Planning, Right-of-Way, Road, Survey, and Traffic.

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

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 under Contract Execution Requirements, 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 **2 years**.

NEGOTIATED COMPENSATION (September 2024)

The compensation payable to the Consultant for all services rendered in connection with this contract is estimated at **$640,538**. 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. The negotiation period shall not exceed ninety (90) calendar days from the selection notification date. If an agreement cannot be reached with the selected consultant within that time, negotiations may be terminated and another consultant selection made from the shortlist.

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

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 and are to be included in Section 20 of the proposal**:

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

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
2. AASHTO Highway Safety Manual
3. AASHTO – A Policy on Geometric Design of Highways and Streets
4. AASHTO Manual for Bridge Evaluation
5. ASTM Standards
6. CyberSecurity Training
7. DOTD – Bridge Design and Evaluation Manual (BDEM)
8. DOTD – Complete Streets
9. DOTD – Construction Contract Administration Manual
10. DOTD – Consultant Contract Services Manual
11. DOTD – Hydraulics Manual
12. DOTD – Location and Survey Manual – REVISED OCTOBER 2023
13. DOTD – Addendum "A" to the Location & Survey Manual
14. DOTD – Louisiana Standard Specifications for Roads and Bridges
15. DOTD – Materials Sampling Manual
16. DOTD – Minimum Design Guidelines
17. DOTD – Off-System Highway Bridge Program Guidelines
18. DOTD – Pavement PRR Min Design Guidelines

19. DOTD – Roadway Design Procedures and Details Manual
20. DOTD – Stage 1 Planning/Environmental Manual of Standard Practice
21. DOTD – Testing Procedures Manual
22. DOTD – Traffic Engineering Manual
23. DOTD – Traffic Engineering Process and Report
24. DOTD – Traffic Signal Manual
25. e-CFR – Electronic Code of Federal Regulations (all applicable)
26. FHWA – Bridge Inspector's Reference Manual (BIRM)
27. FHWA – Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)
28. National Electrical Safety Code (NESC)
29. LTRC – Local Public Agency Qualification Program: Construction, Engineering and Inspection course
30. NFPA 70 – National Electrical Code (NEC)
31. NEPA – National Environmental Policy Act

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: https://bit.ly/CCS_SampleContractProvisions.

DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENT

This advertised contract has a Disadvantaged Business Enterprise (DBE) goal of **4%** 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 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 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.

The DOTD Form 24-102 **PDF file shall be labeled "ENTITY CONTRACT NO. 4400032380 Consultant's name",** and **must be received no later than 3:00 p.m. Central Time by DOTDConsultantAds80@la.gov via email** on **Wednesday, September 10, 2025**.

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 critical.

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 to design a roundabout at the intersection of Downing Pines Road, Mane Street and Short Constitution Drive in Ouachita Parish, Louisiana. It is anticipated that the Consultant shall make appropriate design considerations for an asphalt roundabout and ensure the maintenance of traffic during all phases of construction.

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

TASK 1: PROJECT MANAGEMENT

The Consultant shall schedule a kick-off meeting with the Project Manager, Entity Responsible Charge and project team according to the Schedule of Deliverables. The Consultant is responsible for setting up the project kick-off meeting. Agenda items for this meeting shall include the review points and durations, time-frame assumptions built into the project schedules, deliverables, procedures to follow, the Measures of Effectiveness (MOEs) to be compared for traffic analyses, invoicing procedures, progress reporting, and rating criteria. The agenda shall be provided to the Project Manager and Entity Responsible Charge one (1) week prior to the meeting. The Consultant is responsible for meeting minutes, which shall be provided to the Project Manager and Entity Responsible Charge within three (3) business days following the meeting.

Project management will include progress reporting, coordinating with stakeholders, including Monroe MPO and DOTD, as well as ensuring quality control and quality assurance. The Consultant is responsible for project tracking and shall 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 and Entity Responsible Charge 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 report may include a discussion of the previous month's progress, problems that were encountered, unresolved issues, and anticipated work for the next month. The Consultant shall coordinate with and provide the Project Manager and Entity Responsible Charge with monthly updates. It is anticipated that the Consultant shall have periodic coordination meetings with the Project Manager, Entity Responsible Charge and other subject matter experts during the course of the project to review the project status and address any concerns.

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

TASK 2: TOPOGRAPHIC SURVEY

This project is located in Ouachita Parish in West Monroe, Louisiana, near the intersection of I-20 and Downing Pines Road. A detailed description of the survey limits are outlined below.

The first portion of this project shall begin at a point along Downing Pines Rd, approximately 1,390 feet south of the intersection of Constitution Drive and Downing Pines Rd, and continue in a northwesterly direction along Downing Pines Rd for a linear distance of approximately 790 feet. The second portion of this project shall begin at a point at the intersection of Downing Pines Rd and Mane St, and continue in a southwesterly direction along Mane St for a linear distance of approximately 530 feet. The third portion of this project shall begin at a point at the intersection of Downing Pines Rd and Short Constitution Drive, and continue in a northwesterly direction along Short Constitution Drive for a linear distance of approximately 900 feet. The width of the DTM and survey shall vary. Please see attached survey request sketch for detailed limits of survey.

A complete Topographic survey including all utilities with depths and all drainage is required, along with finish floor elevations of all buildings that fall within the survey limits. This project shall be completed in accordance with the Location and Survey Manual and all current accepted Location and Survey Automation procedures. Control shall be established following the guidelines in the latest edition of the Locations and Survey manual. Deliverables are to be submitted in Microstation/Inroads or Openroads (ORD) format.

A drainage map shall be required. Please refer to the Location and Survey Photogrammetry Unit for detailed instructions of what is required on the drainage map.

Permission of land owners shall be acquired by the Consultant before entering any property associated with this description.

All work is to be done in English units of measurement.

TASK 3: TRAFFIC ENGINEERING AND RELATED SERVICES

Study Overview

The purpose of this Intersection Control Evaluation (ICE) Study is to establish an integrated, systematic, and performance-based approach to evaluating alternative intersection control and configurations at the intersection of Downing Pines Road at Mane Street/Short Constitution Drive in Monroe, Louisiana.

The project will evaluate multiple intersection improvement alternatives that meet the purpose and need of the project.

The Study will include the following scope of work.

Initial Data Collection

All counts should be collected according to the standard engineering practice on a Tuesday, Wednesday, or Thursday, when schools are in session (not during summer vacation, or during holidays). If counts are being taken and weather becomes a factor during the time of counts, note such conditions as well as any accidents that may have occurred.

The seven (7) day, 24-hour counts will be used to establish the peak periods. Locations of seven (7) day, 24-hour Bi-directional Classification Counts:

1. Downing Pines Road north of Mane St./Short Constitution Dr.

Deliverables:

1. *Appendix A – Initial Data Collection*
    a. *Electronic submittal containing the 7-day 24-hour raw counts. The count locations shall be shown on an aerial map.*
    b. *Peak Period Determination Chart with explanation*
    c. *Any documentation, justification, etc. for any count discrepancies*
    d. *QA/QC Documentation*

Final Data Collection

48-hour counts with vehicle classifications shall be taken at all intersection approaches to help verify TMCs and demand. (24-hour classification counts will be acceptable).

Turning Movement Counts (TMCs) with classifications and demand shall be conducted at each approach of the intersection of Downing Pines Road and Mane St./Short Constitution Drive during the AM and PM peak periods. Counts for all movements will include vehicular, pedestrian, and bicycle.

Growth Rate Determination

The Growth Rate shall be determined using the MPO Travel Demand Model. These models will be the currently approved base year model and the future fiscally constrained model.

Deliverables:
All data should be submitted electronically noted below:

1. *Chapter 1 – Explanation of the methodology for collecting data.*
2. *Appendix B – Final Data Collection*
    a. *Growth Rate Determination – Justification of growth rate determination and any sources that were used to obtain the growth rate(s).*
    b. *Any documentation, justification, explanation for any count discrepancies. All locations shall be correct and easily followed*
    c. *Volume check: Provide raw count figures with balanced volumes differences*
    d. *Raw Turning Movement Counts (TMCs) and 48 hour counts all with classifications*

e. Demand Calculation table
f. Maps
g. Raw Turning Movement Counts (TMCs) with Demand shown separately
h. Final Existing Volumes (year 2025)
i. No Build Volumes (year 2045)
j. Peak Period Observations
k. Geometric Field Checklist
l. QA/QC Checklist and documentation – signed and dated

Existing Safety Analysis

The Consultant shall pull all crash history within the limits of this study for the latest five (5) years of available certified data for the project study area (2019-2023). A crash summary analysis for five (5) years shall show trends of crash rates, location, and severity using the Louisiana Crash Tool.

If a consistent trend is present throughout the five (5) years of data, the trend information shall be submitted to DOTD prior to performing any detailed crash analysis. After DOTD concurrence of the trend information, a detailed crash analysis shall be performed for one (1) year of typical data, in which all crash reports will be read in detail. If a consistent trend cannot be determined through the five (5) years of data, a detailed crash analysis shall be performed for all five (5) years for the project study area.

The detailed crash analysis shall consist of a review of the crash reports in detail to determine the type of collision based on the reporting officer's description. A report shall be submitted to DOTD Highway Safety Section for any crash reports within the latest year of data (one (1) year) that are found to be erroneous. The Consultant shall prepare QA/QC documentation for the review and approval of DOTD.

The Consultant shall also pull the latest five (5) years of pedestrian and bicycle crashes within the limits of the study area. Also, summarize any trends, if found, for pedestrians and bicyclists.

Crashes shall be pulled as far as the existing analysis is showing queuing for all intersections.

<u>Deliverables:</u>

1. *Appendix C – Existing Safety Analysis*
   a. Louisiana Crash Tool
   b. Crash Report Documentation – crash history, corrected component of crashes and provide individual summary of crash report narratives
   c. Collision Diagram
   d. Crash Analysis Summary - summary of crash reports explaining results
   e. *Existing Safety Analysis QA/QC Checklist*

Existing and No Build Analysis

The Consultant shall analyze existing and projected traffic conditions using software approved by the DOTD Traffic Engineering section. The existing year is 2025. The future year is 2045. The analyses shall include the following MOEs per movement:

- V/C ratios
- 95th percentile queue lengths
- Critical movement control delay (sec/veh)

Analysis results must be verified with the collected field data to ensure validity and accuracy. All defaults must be justified and documented.

Tier 1 Analysis

The Consultant shall perform a Tier 1 Analysis of the Existing and No Build Analysis results to identify alternatives for further investigation that address the purpose and need while considering project constraints. All alternatives must be compiled in a matrix format for examination.

Alternatives selected for inclusion in the Comparison Matrix will be ranked using high-level criteria such as, but not limited to, Operations, Right Of Way (ROW), Cost, and Environmental Impacts. Criteria used should be quantified with thresholds that allow for a scored comparison between all alternatives and will vary depending on the defined problem. All alternatives considered shall include documentation explaining why they were recommended for advancement to Tier 2 or removed from further consideration. Depending on complexity, this could be a Notes column in the Evaluation Matrix or several paragraphs of explanation.

All alternatives will be compiled in a table format with a description and/or figure of each alternative and its associated ranking within the defined criteria. Selected alternatives should be based on a comparative evaluation using the total ranking.

<u>Deliverables:</u>

1. *Appendix D – Existing and No Build Analysis*
    a. *Software reports/Output for Existing and No Build Conditions (only relevant sheets)*
    b. *Electronic files of analyses*
    c. *Analysis results of MOEs on a map with road name, control type, and north arrow of the corridor (11X17)*
    d. *Queue map of intersection (field vs software- if there is a difference explain)*
    e. *Intersection description (for TMC location)*
    f. *Detailed description of intersection, nearby land use and issues for those not familiar with area*
    g. *Aerial of intersection (showing existing lane configuration, peak hour TMCs, commercial/residential drives and any other notable feature such as but not limited to bus stops, crosswalks, train crossings etc.)*
    h. *Summary of peak period observations (queues, issues, etc.)*

   i. *Summary of crash history*
   j. *MOE table of results*
   k. *QA/QC documentation*
2. *Chapter 2 – Interpretation of data and analysis of overall study area*
3. *Tier 1 Analysis*
   a. *Summary of Screening Criteria*
   b. *Critical Intersection Type Matrix and Results*
   c. *Any additional tools and outputs used in decision making process*

Existing and No Build Results Meeting

The Consultant shall coordinate a meeting to discuss the findings of the existing and no build analysis.

- Present and discuss Existing and No Build, including any safety or capacity issues for the study area.
- Present and discuss high-level alternatives that address issues found in Chapter 2 (Tier 1 results).
- Discuss tool selection for Alternative Analysis.

Preliminary Tier 2 Alternative Analysis

- Footprint layouts on an aerial of potential alternatives at critical areas showing high-level physical impacts along the corridor.
- Redistributed volumes
- Meeting (optional)
- Recommend weight factors and ratings scale for Alternative Comparative Evaluation Matrix.

<u>Deliverables:</u>
1. *Redistributed Volume Map*
2. *High-level sketches and analysis*
3. *Meeting Minutes within 3 days (if meeting held)*

Final Alternative Analysis

Tier 2 Analysis of future year using approved software from the Existing and No Build Meeting.

<u>Deliverables:</u>
All data should be submitted via electronic copy.
1. *Appendix E – Alternative Analysis*
   a. *Tier 1 Matrix with documentation.*
   b. *Tier 2 Analysis and Documents*
      i. *11 X 17 Map(s) showing redistributed future year volumes for each alternative (if needed)*

ii. *11 x 17 Map(s) showing queues on an aerial comparing all alternatives and No Build alternative (pdf)*
iii. *Electronic copy of Analysis for Operations*
iv. *Software Reports/Output for Analysis of Intersections – Only relevant reports with inputs and Measures of Effectiveness (MOE) are needed. (pdf)*
v. *Intersection Summaries – Intersection with Turning Movement Counts (TMCs) and/or modifications:*
vi. *A detailed description of new and modified intersection (paint a picture)*
vii. *Aerial of intersection showing proposed lane configuration, proposed and existing Right of Way (ROW), and proposed and existing Control of Access (COA).*
viii. *Safety Analysis (showing an existing crash diagram with alternatives drawn and the potential crashes that may be eliminated with that alternative*
ix. *MOE Table of Results*
x. *Summary Table of Results compared to No Build and all other Alternatives*
xi. *Critical Geometry Layout (of entire intersection) (11X 17, pdf, CADD OR KMZ files (not a line and grade)*
xii. *Documentation of any default changes from No Build to Alternative Analysis*
xiii. *Comparative Evaluation Matrix with documentation and calculations*
xiv. *QA/QC Documentation*

2. *Introduction of Final Report*
3. *Chapter 3 – Alternative Analysis Summary*
4. *Executive Summary*

Final Report

Deliverable:
Sealed Report (Draft must be approved before final submission).
Minimum 2 Electronic Copies

TASK 4: BRIDGE DESIGN SERVICES

4.1 General Bridge Engineering Services

Provide bridge engineering services for the culvert bridge(s) or other bridge(s) within this project. Bridge engineering services include, but are not limited to, structural, architectural feasibility, design, plan development and the following:

- Bridge/structural inspection and evaluation of existing bridge(s) or other associated structures. Associated reports shall be provided as required.
- As-designed, as-built, and condition bridge ratings utilizing AASHTOWare Bridge Rating software. For deliverables, refer to the DOTD Bridge Design & Evaluation Manual for specific requirements, such as: as-designed bridge rating report, plan requirements, software files, calculations, Summary Sheet, etc.

4.2 Sampling and Non-destructive Testing

Provide sampling and non-destructive testing services. These services may include, but are not limited to, collection of samples of materials from existing structures for evaluation, diagnostic and/or proof testing to determine specific structure response characteristics and/or to determine the causation of observed distresses, instrumentation, and the following:

Sampling
- Collection of samples

Non-destructive Testing
- Proof loading
- Estimation of concrete strength
- Assessment of reinforcement condition, cover, location, and diameter
- Detection of cracks, voids, and delamination in concrete

TASK 5: GEOTECHNICAL INVESTIGATION AND DESIGN SERVICES

The geotechnical portion of this project will consist of furnishing geotechnical investigation services and foundation design for the proposed structures. Hereafter, all sites are referred to as bridge sites, regardless of whether the final design includes a bridge or box culvert.

Project No.	District	Intersection Description	Deep Borings	Subgrade Borings
H.016019	05	Downing Pines Rd & Short Constitution Dr	3	7

The number of borings is estimated based on the roundabout and roadway layout and conforms to typical DOTD practice and AASHTO requirements. A shallow subgrade soil survey boring shall be made along each roadway leading to the roundabout. 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, optional cone penetrometer test (CPT) soundings, 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 may consist of traditional soil borings with laboratory testing, or a

combination of that along with CPT soundings (ASTM D3441, ASTM D5778). At least 75% of the exploration points shall be soil borings. Cone penetrometer soundings may be used in lieu of additional Deep Borings, but shall not be utilized where the geology does not permit the CPT rig to acquire data to the depth needed to provide recommendations for the culvert. It is the consultant's responsibility to conduct a desk study prior to commencing fieldwork in order to determine the adequacy of the proposed fieldwork for that particular site.

Borings/soundings 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 foundation reactions. Reduction in foundation capacity due to scour shall be considered when planning the geotechnical investigation, where applicable.

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

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). An automatic hammer that has been calibrated in the last two (2) years shall be used when taking samples using the SPT method. Within the boring performed at the culvert extension, continuous sampling shall be performed within at least the upper 20 feet. In other Deep Borings, 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 and CPT soundings 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:

- 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

A subgrade soil survey boring shall be made within 100 feet of the roundabout along each approach roadway, and equally spaced subgrade borings shall be made along Short Construction Drive. Subgrade soil survey borings can be made utilizing continuous-flight augers, pneumatic, or direct-push sampling. The depth of each boring should be at least 8 feet below the finished roadway elevation or natural ground, whichever is greater, with additional sampling and testing requirements for areas of cut/fill greater than ten (10) feet. 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;
- Grain size testing (ASTM D1140 and ASTM D6913) – as needed to classify granular soils;
- Hydrometer tests (ASTM D7928) – 75% of samples;
- Percent Organics (ASTM D2974) – as needed; and
- 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) 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

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

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, temporary and permanent 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 analyses and estimated long-term and short-term deflections. A minimum factor of safety

of 1.5 shall be applied to the passive resistance when evaluating sheet pile walls. Sheet pile penetration shall be increased by 20% beyond the value obtained in the analysis. The USACE Design Guide titled "EM-1110-2-2504- Design of Sheet Pile Walls" may be used as a reference.

Culverts

The geotechnical design for culvert locations shall consist of the following, when applicable: earth pressure calculations, bearing capacity analyses, and settlement analyses. At a minimum, the report shall address bedding thickness recommendations and evaluation of constructability.

Report deliverables shall include the input and output of such analyses. Plan deliverables shall include recommendations for bedding material, details and notes for ground improvement or foundation support, and notes for phasing or any special construction procedures needed.

DELIVERABLES

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

Geotechnical Design Criteria

The Consultant shall furnish a Geotechnical Design Criteria Document within 30 days of the project being awarded. The document shall include the following:

1) A list of all geotechnical design elements or improvements;
2) A list of the methods that will be used to design the elements, including references;
3) A list of target design metrics, such as LRFD resistance factors, allowable post-constriction settlement, differential settlement, etc.; and
4) A list of all software that will be used to design these elements.

Note that multiple design solutions may be listed for a single geotechnical element. For example, if a bridge could be supported by piles or drilled shafts, list both methods and all supporting information if the foundation is unknown at the time of submittal.

Geotechnical Investigation Plan

Prior to beginning the field work associated with the geotechnical investigation, submit a site layout with proposed boring/CPT 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;
    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 structure type, loads, and pile lengths. 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 structure type;
        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. Foundation Analyses:
        i. Culvert bedding recommendations
    d. Slope Stability Recommendations
    e. Embankment Settlement Recommendations
    f. Earth Retaining Structures Recommendations
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;

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. Raw data files from all CPT soundings shall also be furnished.

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.

Cone penetrometer test soundings shall be presented in the Geotechnical Data Report on logs adhering to either the standard DOTD CPT log format or the Consultant's own 8.5" x 11" format. This standard format presents tip resistance, side friction, pore water pressure, and classification based on the Zhang and Tumay method. Examples of boring logs and CPT logs can be furnished upon request.

Shallow Subgrade soil survey borings shall be presented in a tabular format containing all test results and classified using the AASHTO soil classification method.

This task shall be compensation based on cost per unit of work.

TASK 6: PROPERTY SURVEY & ROW MAPS

A property survey is necessary for each required parcel. Title take-offs for affected ownerships may be obtained by the surveyor if necessary to expedite the commencement of field work.

Upon completion of the property survey, the Consultant shall notify the Location and Survey Administrator, in writing, and provide an electronic copy of field notes, an electronic text file listing coordinates and descriptions of all found monuments, a "PDF" copy of all documents (plats, maps, etc) used to determine property line locations, and a "PDF" copy of title take-offs or title research reports used to determine property line locations. The Consultant shall also provide an electronic copy of the Property Survey in Microstation "DGN" and Adobe "PDF" formats showing project centerline data, all surveyed property lines, property monuments, existing right of way, and all major improvements within 50 feet of required taking lines with ties to project centerline. The Microstation "DGN" file shall be referenced to the survey control coordinate system.

The Consultant shall prepare a right of way map that will consist of one (1) title sheet, approximately three (3) plan sheets at a scale of 1"=30', and approximately two (2) residual sheets at an acceptable scale to utilize the limits of those sheets. A PDF of the 60% right of way map shall be submitted for a joint plan review and a PDF of the final right of way map shall be submitted for final review.

Upon completion of the right of way map, the Consultant shall provide a parcel description input file, PDF copies of the Title Reports used to prepare the map, a film copy of the Right of Way Map, and all CAD files utilized to prepare the right-of-way maps. The title report PDF files shall be separate PDF files for each report, edited to include the parcel designations on the cover sheet, and named by Project Number, Parcel Number, and date of report.

Note that all work is to be completed in English units of measurements.

TASK 7: PRELIMINARY & FINAL PLANS

The design and plan development shall consist of all engineering services required for the completion of preliminary and final plans, cost estimates and supporting documents for the project.

1. The Consultant shall provide preliminary plans and final plans drawn to acceptable scales for the project. Deliverables shall be submitted to the Entity's Responsible Charge through the utilization of ProjectWise or as directed by the Entity's Responsible Charge. The Consultant shall include a cost estimate with major submittals.
2. Design of plans in English units of measurement.

3. All plans submitted by the Consultant shall conform to the quality standards adopted by DOTD. DOTD's Chief Engineer may reject any plans not conforming to these standards.
4. The Consultant shall submit all necessary reports, exceptions, waivers and other supporting documents at the required plan development stages.
5. The Consultant shall prepare all necessary special specifications, specialty item descriptions, and details for the project.
6. The Consultant shall provide a utility conflict matrix.
7. The Consultant shall provide a written disposition to all review comments to the Entity's Responsible Charge with or prior to the subsequent submittal.
8. The Consultant shall participate in project meetings such as public meetings, kick-off, preliminary plan review, joint plan review and final plan review.
9. The Consultant shall provide layouts, exhibits and permit sketches for use in obtaining environmental clearance, obtaining permits and displaying at public meetings.
10. The Consultant shall provide assistance answering pre-bid questions submitted to DOTD.
11. The Consultant shall perform a review of the Contractor's Bid, and provide DOTD with a recommendation to award or reject the Bid.

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

The Consultant shall provide preliminary and final roadway plans and supporting documents for the project including, but not limited to the following:

- Title Sheet, Layout Map and Index to Sheets
- Typical Sections and Details
- Quantity Summary Tables
- Summary of Estimated Quantities
- Plan and Profile Sheets
- Drainage Plan and profile Sheet (as necessary)
- Survey Control
- Existing Drainage Maps
- Design Drainage Maps
- Summary of Drainage Structures
- Geometric Layout and Geometric Detail Sheets
- Joint Layout and Graphical Grade Sheets (as necessary)
- Permanent Signing and Pavement Marking Layout Sheet
- Misc. Details & General Notes
- Temporary Construction Signing and Suggested Sequence of Construction
- Cross Sections
- Construction Cost Estimates
- Hydraulic Report
- Design Report(s)
- Design Exceptions and Design Waivers

- Storm Water Pollution Prevention Plan
- Constructability/Biddability Review Form
- QA/QC Checklists
- Engineering Reason and Decision Document (as necessary)
- Estimated Contract Time

TASK 8: CONSTRUCTION SUPPORT

Construction engineering support shall consist of all required services to review construction drawings, review shop drawings, and review the address Request for Information (RFI's) from the Entity's Construction Contractor that concern plan/specification clarity or plan/specification error. The Consultant shall be required to respond to all RFI's within forty-eight (48) hours. This item shall be used only when directed and authorized by the Entity's Responsible Charge.

This task shall be compensated based on specific rates of compensation.

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY DOTD

If available, DOTD will provide the following information as applicable:

- Standard Plans and Special Details
- Access to Virtis input tables for On-System Bridges
- DOTD design and rating manuals, policies, and guidelines

ELECTRONIC DELIVERABLES

The 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. The 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.

The Consultant shall apply patches to CAD Standard Resources and install incremental updates of software as needed or required. The 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 the Consultant to purchase additional software. Prior to proceeding with plan development, the 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. The Consultant is responsible for contacting the Project Manager should questions arise.

The Consultant shall upload (or check in) electronic deliverables directly into the DOTD ProjectWise repository at each plan delivery milestone. The 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.

Additionally, after reviewing deliverables for each submittal milestone, the Project Manager shall notify the 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. The 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.

SPECIFIC SOFTWARE AND / OR EQUIPMENT DESIRED

A list of pre-approved commercially available software is posted on the bridge design website at the following location: https://www.dotd.la.gov/media/5gpg0f2i/bridge-design-approved-software-list.pdf.

If any other software is required for unique applications for which pre-approved software cannot be used, a synopsis of the software shall be submitted to the Bridge Design Engineer Administrator for approval prior to use. The synopsis shall include the name of the software and the developer, a general description of the functions, a certification from the software developer stating that it is maintained in accordance with the latest AASHTO LRFD Bridge Design Specifications, and an account of the requester's experience and the experience of other organizations or agencies that use the software. Data/results from in-house software will not be accepted as part of the deliverable.

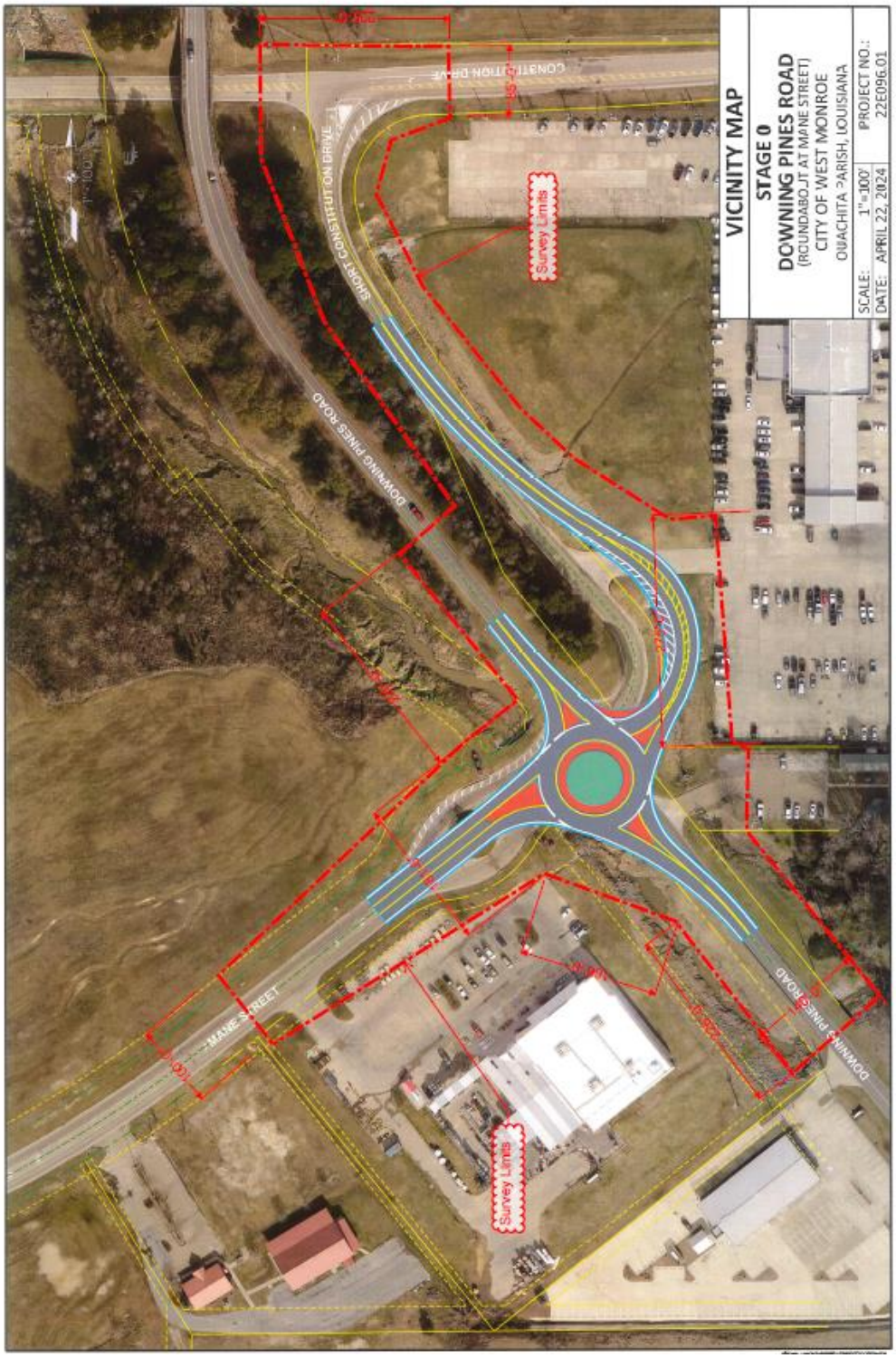

Exhibit: Anticipated Survey Limit

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 five (5) years of experience in responsible charge of the preparation of roadway plans.
4. At least one (1) professional civil engineer, registered in the State of Louisiana, shall have a minimum of ten (10) years of experience in responsible charge of fixed bridge design including, but not limited to, various concrete bridges.
5. At least one (1) professional civil engineer, registered in the State of Louisiana, shall have a minimum of five (5) years of bridge rating experience.
6. 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 topographic and property surveys.
7. At least one (1) professional engineer, registered in the State of Louisiana, shall be a Professional Traffic Operations Engineer (PTOE), and shall have a minimum of five (5) years of experience in responsible charge of traffic analysis, traffic control design, and traffic engineering studies along with all associated software.
8. At least one (1) professional civil engineer, registered in the State of Louisiana, shall have a minimum of fifteen (15) years of experience in responsible charge of managing geotechnical engineering projects in Louisiana.
9. At least one (1) professional engineer, registered in the State of Louisiana, shall have a minimum of seven (7) years of experience in responsible charge of overseeing an accredited Geotechnical Soils Lab in Louisiana.
10. At least one (1) laboratory manager shall have a minimum of five (5) years of experience in geotechnical laboratory testing.
11. At least one (1) field crew driller/supervisor shall have a minimum of ten (10) years of experience in drilling and sampling within the State of Louisiana.

MPRS ARE TO BE MET BY SEPARATE INDIVIDUALS OF THE PRIME CONSULTANT, UNLESS STATED OTHERWISE BELOW.

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

MPR Nos. 8 and 9 may be met by the same person.

MPR Nos. 4 through 11 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.