ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
APRIL 18, 2023

CONTRACT NO. 4400026585
STATE PROJECT NO. H.006226.5
FEDERAL AID PROJECT NO. H006226
POINTE-A-LA-HACHE FERRY LANDING REPLACEMENT
PLAQUEMINES 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, 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.

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)

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 can perform less than 50% of the work, but none of the sub-consultants can perform a larger percentage of the overall contract than the prime consultant.

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 **5 years**.

COMPENSATION

The compensation payable to the consultant for all services rendered in connection with this contract is estimated at **$1,559,532**. 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 negotiated cost plus fixed fee.

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

The Scope of Services provided in Attachment A includes design of one (1) or more bridges and/or component parts thereof. The prime consultant shall submit a bridge design QA/QC plan document specifically developed for this contract as part of the DOTD Form 24-102. The QA/QC plan document must comply with the minimum requirements in the DOTD Bridge Design Section Policy for QA/QC as stated in Part I, Chapter 3 of the DOTD Bridge Design & Evaluation Manual (BDEM). The grading instructions, the rating matrix, and the grading sheet for the QA/QC plan document are included in Appendix G of the BDEM Part I, Chapter 3 – Policy for QA/QC. The QA/QC plan document shall be prepared to address all evaluation criteria included in the rating matrix. The QA/QC plan document must be implemented for all bridge design activities in both design phase and construction support phase of the contract. The prime consultant is fully responsible for QA/QC of their work as well as the work of all sub-consultants. All project submittals must include a QA/QC certification that the submittals meet the requirements of the QA/QC plan document. **Attach the QA/QC plan in Section 21 of the DOTD Form 24-102.**

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 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/BDEM.aspx
6. DOTD – Complete Streets – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Complete_Streets/Pages/default.aspx
7. DOTD – Construction Contract Administration Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pages/Engineering_Docs.aspx

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

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 **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, 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.

The DOTD Form 24-102 **PDF file shall be labeled** **"Contract No. 4400026585, Consultant's name",** and **must be received no later than 3:00 p.m. Central Time by DOTDConsultantAds80@la.gov via email** on **Wednesday, May 10, 2023**. 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 30MB 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.

This project consists of surveying, designing and construction support to construct two (2) new ferry landings located in Plaquemines Parish, Louisiana (Pointe-A-La-Hache) – one on each side of the Mississippi River approximately ¼ mile upstream of the current ferry location.

Survey

This project is located in Plaquemines Parish, Louisiana (Pointe-A-LA-Hache) and consists of two separate sites on opposite sides of the Mississippi River, to be described below. 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.

SITE 1: (Located on the south side of the Mississippi River and north of the intersection of LA 23 and Morris Ln.). This portion of the survey shall begin at a point at the intersection of a gravel road and LA 23 (same point being approximately 250 ft. northwest of the intersection of LA 23 and Morris Ln.). From the point of beginning, the survey shall proceed in a northeasterly direction along the same gravel road and perpendicular with LA 23 for a linear distance of approximately 1,275 ft. (including approximately 300 ft. out from bank of river). The width of survey and DTM shall be 150 ft. The survey shall then proceed in a northwesterly direction and perpendicular to LA 23, for 525 ft. The survey shall then proceed in a northeasterly direction and perpendicular to LA 23, for 775 ft. (including approximately 300 ft. out from bank of river). The width of survey and DTM shall vary. Please see attached survey request sketch for detailed limits of survey.

SITE 2: (Located on the north side of the Mississippi River and near the intersection of Hwy 15 and Adema Ln.). This portion of the survey shall begin at a point along Hwy 15 approximately 100 ft. southeast of the intersection of Adema Ln. and Hwy 15 and proceed in a southeasterly direction along Hwy 15 for a linear distance of approximately 425 ft. The survey shall then proceed 400 ft. perpendicular to the centerline of Hwy 15 and along property line (including approximately 370 ft. out from crown of levee and 200 ft. from bank). The width of survey and DTM shall be approximately 425 ft. Please see attached survey request sketch for detailed limits of survey.

Both sites shall be tied into the existing U.S. Army Corps of Engineers Levee Baseline and the nearest Mississippi River gauge station located either upstream or downstream.

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.

All sub-structures shall be located.

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.

HYDROGRAPHIC SURVEY:

The Consultant shall perform a multi-beam hydrographic survey within the applicable limits of survey. The Consultant shall record sufficient data to ensure accurate location of all objects and features obtained during the survey and shall meet the accuracy requirements specified in the Location & Survey Manual. The deliverables shall include all normal Survey Inroads deliverables along with all point clouds collected.

Geotechnical

The geotechnical portion of this project will consist of furnishing geotechnical investigation services and foundation design for the following proposed structures. Hereafter, all sites are referred to as ferry landing sites, regardless of whether the final design includes a bridge, lifting tower, and mooring dolphin.

Project No.	District	Site Description	Length (ft)	Deep Borings	Subgrade Borings
H.006226	02	East Bank Structure	Varies	3	2
		West Bank Structure	Varies	3	2

The following scope is applicable to the typical type of ferry landing site anticipated for this project. The number of borings is estimated based on ferry landing layout and conforms to typical DOTD practice and AASHTO requirements. Each Ferry Landing Site shall include two deep borings in the channel (at location of ferry landing), one deep boring on land (near bridge end), and two shallow subgrade soil survey borings on land (for pavement). 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 Foundation Borings

The field investigation will consist of soil borings with laboratory testing. Borings shall be made to a minimum depth of 120 feet below existing ground line; 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.

Water level readings shall be made in all soil borings made over land. If the field investigation requires multiple days to complete, at least one 24-hour water level observation shall be made. Boring 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). 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.

The Consultant may increase the depth of continuous sampling to develop relevant soil parameters within the continuous sampling zone. 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:

- 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

Where samples are extruded in the field, 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 shall be made where new pavement and/or pavement rehabilitation is required on each site. 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 10 feet. In these cases of excessive cut/fill heights, the deep soil borings may be more appropriate.

Laboratory Testing

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

Ferry Landing 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.

If consolidation testing is needed, one-dimensional consolidation tests (ASTM D 2435) may be performed in cases where settlement due to fill is expected to be significant.

Dry preparation methods shall not be used for any ferry landing structural borings.

Extrusion Logs

While extruding soil samples, 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

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 on signed and sealed soil boring logs adhering to the standard DOTD boring log format. 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.

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.

Driven Pile Design

Driven pile foundations may be used to support proposed ferry landing bridges, lifting towers, and mooring dolphins. Pile tip elevations shall be designed using the static equilibrium methods presented in FHWA Geotechnical Engineering Circular No. 12 (GEC 12). Specifically, the Nordlund and α methods shall be used in cohesionless and cohesive soils, respectively.

LRFD Design

The load and resistance factor design (LRFD) method shall be used to set pile lengths. Subsurface data for each ferry landing site shall be evaluated and divided into design "sites" (design reaches) based on the variability of the data. Refer to GEC 5 for best practices on selecting sites for LRFD design. At a minimum, all of the following resistance factors (φ) and corresponding pile resistance verification methods shall be evaluated based on costs and engineering benefits:

- φ = 0.80: One Test Pile per design site with 2% (or a minimum of two) production piles tested using dynamic monitoring and signal matching;
- φ = 0.65: One Indicator Pile per design site with 2% (or a minimum of two) production piles tested using dynamic monitoring and signal matching; or
- φ = 0.50: No Test/Indicator Piles, end-of-drive pile resistance verification using the Modified Gates equation.

Recent bid histories for estimating the costs of the various resistance factor scenarios may be found at:
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Project_Management/Pages/Cost_Estimating_Tools.aspx

Scour

Pile design shall consider scour in accordance with Bridge Design Technical Memorandum 21 (BDTM.21). Per Bridge Design Technical Memorandum 32, Rev. 3 (BDTM.32.3), required nominal resistances shall be computed for two cases and presented on the Pile Data Tables:

- The case where the pile is driven to the required tip elevation without the benefit of predrilling, and thus developing full side friction along its entire embedment length; and
- The case where the contractor performs predrilling to the scour elevation in order to advance the pile; thus eliminating side friction within the predrill/scour zone.

Lateral Loading

Lateral load analysis shall be performed using a p-y method in accordance with GEC 12. P-y methodology shall be performed to check for lateral stability and displacement of deep foundations. P-y modifiers (p-multipliers) should be considered for special conditions such as group effects and sloped geometry (to include battered piles). For deep foundations installed in inclined conditions the following should be adhered:

- Battered piles inclined in the direction of loading or vertical piles loaded in the direction of the downward slope inclination will have a negative angle of inclination (-□) and the P-multipliers (Pm) will range from 0.3 to 1.0.
- Battered piles inclined against the direction of loading or vertical piles loaded in the direction of the upward slope inclination will have a positive angle of inclination (+□) and the P-multipliers (Pm) will be range from 1.0 to 2.0.

Other Considerations

Additional design considerations such as uplift, group effect, downdrag, etc. shall be addressed in accordance with GEC 12.

Drilled Shaft Design – (If applicable)

Drilled shaft foundations may be considered for support of proposed ferry landing structures. Shaft tip elevations shall be designed using the static equilibrium methods presented in FHWA Geotechnical Engineering Circular No. 10 (GEC 10).

LRFD Design

The load and resistance factor design (LRFD) method shall be used to set shaft lengths. Subsurface data for each ferry landing site shall be evaluated and divided into design "sites" (design reaches) based on the variability of the data. Refer to GEC 5 for best practices on selecting sites for LRFD design.

Drilled shafts shall be designed with a resistance factor, φ, of 0.70, corresponding with field verification using bi-directional load testing. Refer to LTRC Project 07-2GT, Calibration of Resistance Factors Needed in the LRFD Design of Drilled Shafts (Abu-Farsakh et al., 2010) to

determine appropriate locally calibrated resistance factors for static design methods without load testing.

Other Considerations

Additional design considerations such as lateral loading, uplift, group effect, downdrag, etc. shall be addressed in accordance with GEC 10.

Ferry Landing Foundation Load Test Program

If the project subsurface conditions are difficult, significant uncertainties exist in the foundation design, and cost savings can be predicted, a load test program may be appropriate. Depending on project conditions, a load test program may be included either in the Design or in the Construction phase. The load test program shall include the following:

1. Location and Type of proposed load test;
2. Design of test foundation (pile, drilled shaft, or other);
3. Dynamic test procedures and schedules;
4. Load increment requirements;
5. Maximum test load;
6. Instrumentation requirements;
7. Load test Layout and Design Sheets for plans;
8. Special Provisions for construction of test foundation and load test methodology;
9. Interpretation of load test results and recommendations; and
10. Foundation load test report.

Slope Stability

Modifications to the bank or channel geometry, including temporary conditions should be analyzed for slope stability. The following maximum resistance factors and equivalent factors of safety shall be considered:

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

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

Embankment Settlement

The addition of fill may lead to settlement concerns of existing subsurface soils. Consolidation/settlement analysis may be needed to determine the amount of settlement in inches/feet, to estimate the time required for settlement to take place when the proposed embankment is constructed on the project subsurface soils, and to make appropriate Engineering Design Recommendations relative to consolidation settlement. An embankment settlement

analysis should include modeling of the appropriate borings logs and critical embankment geometry. Determine the predicted total consolidation settlement and the predicted time rate to achieve only 1 inch of post-construction settlement. If reaching 1 inch of post-construction settlement is anticipated to occur in a time period greater than 5 months, recommendations to reduce the amount of consolidation settlement and/or to accelerate the settlement through the use of lightweight fills, surcharge placement, wick drains or other methods should be determined by the engineer. If necessary, engineer should provide recommendations for a settlement monitoring program.

Earth Retaining Structures (ERS)

When adequate space is not available or mitigation of soil erosion is needed for slopes along waterway, a retaining wall may be required. DOTD has used Sheet Pile Walls as temporary and permanent retaining structures. Wall types, such as cantilever or anchored should be selected based on function of the wall, soil characteristics and proximity to ferry landing structures. Earth retaining structure calculations must include:

- Global stability check of ERS;
- External stability check of ERS;
- Settlement analysis of ERS (If applicable);
- Analysis of governing load conditions under drained and undrained soil conditions; and
- Analysis of any other critical/governing configurations of the ERS.

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. 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 shall contain only factual information and no opinions or engineering recommendations. 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
    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 ferry landing 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
    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
        iii) Summary of laboratory testing performed
    b) Subsurface Conditions
        i) Generalized subsurface profile
        ii) Summary of groundwater conditions
    c) Foundation Analyses
        i) Summary of design codes and specifications followed
        ii) Description of static pile analysis method(s) used as well as any relevant assumptions

iii) Discussion of the evaluation of various LRFD resistance factors, field verification methods, and associated costs
iv) Recommended foundation tip elevations/lengths
v) Brief construction recommendations, identification of potential difficult driving conditions, etc.

d) Slope Stability Recommendations (if applicable)
e) Embankment Settlement Recommendations (if applicable)
f) 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
   c) Nominal pile resistance versus elevation plots for each design site and pile size/type
   d) Pile data table
   e) Plots of settlement versus time for any relevant consolidation settlement runs (if applicable)
   f) Slope stability output plots for any relevant global stability analyses as well as external stability calculations for ERS (if applicable)

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 .gpj file adhering to the DOTD's standard gINT schema (a template file can be furnished upon request).

Soil Boring Logs

In addition to including half-size boring logs in the GIR, the logs shall also be included in the plans as signed and sealed full-size sheets.

<u>Roadway Design</u>

The Consultant shall provide the following items:

I. Design Report Form
II. Preliminary and Final Construction Plans
III. Transportation Management Plan (TMP)
   a. It is anticipated that a level 2 TMP will be warranted
   b. See EDSM VI.1.1.8

IV. The Consultant's assistance with permit application drawings, if required, shall be established by a fully executed Supplemental Agreement or Extra Work letter.

DESIGN REPORT FORM

The Consultant shall prepare the latest version of the DOTD Design Report Form. The report shall be approved by the DOTD Project Team prior to construction plan development. The consultant should reference any relevant environmental documents for design criteria used in Line & Grade development. The Consultant is responsible for preparing and submitting any design waivers or exceptions.

PRELIMINARY AND FINAL CONSTRUCTION PLANS

Required Plan Submittals:

- 30%, 60%, 90%, 100% Preliminary Plans
- 60%, 95%, 98%, 100% Final Plans
- Special Provisions and NS Pay Items

<u>30% Preliminary Plans include:</u>

- Title Sheet and Layout Map
    - With traffic data
- Typical Sections (pavement design)
- Plan and Profile sheets with existing topographical survey shown
    - No vertical alignment (profile) shown
- Existing Drainage Map
- Preliminary Design Report
- Soil boring and pH/resistivity request submitted

<u>60% Preliminary Plans include:</u>

- Title Sheet and Layout Map
- Typical Sections and Details Sheets
- Plan and Profiles Sheets
    - Horizontal/Vertical Alignment Provided
    - 1"=50' plan/profile sheets with subsurface drainage and/or open ditch drainage as required
- Summary of Estimated Quantities
    - (No quantities provided, just a list of required pay items)
- Geometric Details
- Existing Drainage Map
- Design Drainage Map
- Drainage Design

  - The Engineer shall prepare a drainage report with calculations for design of maximum capacity of inlets, pipes, and other structures. Drainage design shall comply with the guidelines set in the latest edition of the LA DOTD Hydraulics Manual.
- Cross Sections
  - (Not completely refined, just big picture view of corridor with R/W shown)
- Utility Relocation Recommendations

<u>90% Preliminary Plans include:</u>

- Title Sheet and Layout Map
- Typical Sections and Details Sheets
- Summary of Estimated Quantities
  - (No quantities provided for pay items)
- Plan and Profiles Sheets
  - Further refined alignments and more detail shown
  - 1"=50' plan/profile sheets with subsurface drainage and/or open ditch drainage as required
- Existing Drainage Map
- Design Drainage Map
- Summary of Drainage Structures Sheet
- Geometric Details
- Suggested Sequence of Construction
- Cross Sections
  - Incorporates any alignment changes between 60% and 90% submittals
  - Shows Required Right of Way lines (if applicable) and Limits of Construction
- Preliminary Engineer's Construction Cost Estimate
- Updated Utility Relocation Recommendations

<u>Plan-In-Hand Meeting (PIH)</u>

Following the submittal of the 90% Preliminary Plans, the Engineer shall participate in the PIH meeting. This is an in-person meeting to discuss review comments received from the 90% preliminary plan submittal. See Note 2 for more details.

<u>Plan-In-Hand Deliverables :</u>

- 90% Preliminary Plans (as described above): One set of half-sized (11x17")
- Preliminary Engineer's Construction Cost Estimate (as described below)
- Meeting documentation (as described below)

Preliminary Engineer's Construction Cost Estimate

The Engineer shall develop an itemized construction estimate at 90% Preliminary Plans. The estimate shall be broken down by control sections and individual pay items as defined in the Louisiana Standard Specifications for Roads and Bridges, AASHTOWare Project Preconstruction, and Trns•port, or as directed. Due to federal funding, the project quantities and/or cost estimation may need additional documentation in order to divide the quantities between local and federal funds. The estimate shall be presented on 8 ½" x 11" paper, itemized by pay item number, listing the appropriate pay item description. Item costs shall be based on item bid history or regional market conditions, whichever is most appropriate.

Meeting Documentation

The Engineer shall be responsible for conducting the meeting and preparing and distributing meeting minutes accordingly to all members present. The Consultant will be required to provide a disposition of comments for the Plan-in-Hand Review to satisfy constructability review requirements.

100% Preliminary Plans includes:

- Title Sheet and Layout Map
- Typical Sections and Details Sheets
- Summary of Estimated Quantities
- Plan and Profiles Sheets
- Existing Drainage Map
- Design Drainage Map
- Summary of Drainage Structures Sheet
- Reference Points and Bench Mark Elevation sheets
- Geometric Details
- Suggested Sequence of Construction
- Cross Sections
- 100% Preliminary Plans QC Review Checklist
- Updated Engineer's Cost Estimate based on any changes made as a result of the comments received at the PIH.

100% Preliminary Plans QC Review Checklist

The Engineer shall complete the DOTD QC Review Checklist in accordance with the DOTD Construction Plans QC/QA Manual for review.

60% Final Plans include:

- All sheets included in the 100% preliminary plan submittal revised to include any comments received from the plan reviewers

- Summary of Estimated Quantities and associated Summary Tables should have quantities and quantity calculations provided for each pay item at this point.
- Final Hydraulic Design report submitted for review.
- Suggested Striping and Permanent Signing Layout
- Erosion Control Plan

95% Final Plans include:

- All sheets included in the 60% final plan submittal revised to include any comments received from the plan reviewers
- This submittal initiates the development of the PS&E package (Plans, Specifications, and Estimate)
    - Develop any Non-standard specifications
- Updated Engineer's Cost Estimate
- Complete the Constructability/Bid-ability Form
    - The Design Review portion of the form shall be filled out by the designer prior to 95% Final Plans submittal.
    - See the Plan Constructability Review Form at: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Pages/Standard-Forms.aspx
    - See EDSM III.I.I.32
    - If the Project Manager decides to have a 95% Final Plan meeting, the use of the Constructability/Bid-ability form is not required. In lieu of the form, meeting minutes shall be taken documenting that the plans were reviewed for constructability/bid-ability.

98% Final Plans include:

- All sheets included in the 95% final plan submittal revised to include any comments received from the plan reviewers
- This submittal is predominantly to advance the PS&E package and to submit the plans to DOTD PQU (Plan Quality Unit) for review
- Final Plan QC Review Checklist
- Updated Engineer's Cost Estimate

100% Final Plans include:

- All sheets included in the 98% final plan submittal revised to include any comments received from the plan reviewers.
- Final Engineer's Cost Estimate

Notes on Preliminary and Final Plans

1. This project shall be designed in accordance with the 2016 Edition of the Louisiana Standard specifications for Roads and Bridges, as well as the Louisiana Department of Transportation and Development Minimum Design Guidelines.
2. The Consultant is responsible for providing the Project Manager with a disposition of comments at each plan submittal and project progress meeting. At the conclusion of the project, the Consultant shall submit a final disposition of comments and meeting minutes booklet disclosing all comments and dispositions throughout the life of the design stage of the project.
3. The Consultant shall provide support to the DOTD staff regarding technical questions, and shall provide the DOTD Project Manager with meeting minutes following any project progress or plan review meetings.
4. Items provided by the Department :
    a. Environmental Approval
    b. Pavement design
        - See Typical Section on pg. 28 of the Off-System Highway Bridge Program Guidelines. Pavement and Geotechnical may be consulted if site conditions and ADT require a more thorough design.
    c. Standard Plans (as needed) and Special Details
5. The Consultant is expected to prepare for, and attend, the following (but not limited to) meetings:
    a. Project Kick-Off
    b. Plan-in-Hand
    c. 95% Final Plan Review (with discussion of Risk, TMP, Mitigations, Phasing)
    d. Project Progress Meetings (as needed)
6. Constructability: The Consultant shall, throughout the life of the project, provide internal constructability reviews to ensure successful project bid-ability.
7. Vehicular Traffic Control:
    - Provide traffic control plan with details on the sequence of construction sheets to minimize closures to vehicular traffic for work near LA 23 and LA 15.
8. Pre-bid Questions:
    - The Consultant shall provide assistance with answers to pre-bid questions submitted to the Department through the “Falcon” system.
9. Electronic files will be in MicroStation and InRoads formats and certified by CADconform.
10. The Consultant shall provide the Department with a Final Calculations Report (electronic format is acceptable) of all design and engineering related calculations pertinent to the project The report should be indexed and tabbed for ease of navigation. Information contained in the report should be neatly arranged and legible.

Bridge Design

The plans may include but not necessarily be limited to ramp bridges, lifting towers, and mooring dolphins along with the associated substructures and foundations. Construction support shall also be included during the Construction Phase.

The Consultant shall perform bridge engineering services including the following major tasks:

1. Development of Preliminary and Final Plans for the new East and West Bank Ferry Landings and shall include:
    a. Establishment of design criteria including Design Vessel, Berthing Velocity, Wind, Debris, and River Current loadings, Design Vehicle and Speed, Loading on Mooring Facilities, Loading on Bridges and ramps, and completion of a Final Design Criteria Document.

    b. Design of Landing Ramp Bridges structural design and detailing including:
        i. Girders, floorbeams, stringers, grating deck, and barrier.
        ii. Lift Tower, Platform and Tower Access.
        iii. Lift Beam and Lifting Assembly.
        iv. End Pile Bent and Pivot Assembly.

    c. Design of Mooring structural design and detailing including:
        i. Tripod mooring dolphins.
        ii. Mooring fenders.
        iii. Chained mooring dolphins.

    d. Design and details of approach span and any associated soil/embankment retaining system.

    e. Design and details of new Pontoon Barge(s) and associated apron structures.

    f. Design and details of Roadway and Pedestrian Guardrails for the new Ramp Bridges.

    g. Design details and specifications for the Ramp Bridge mechanical system including lifting tower machinery.

    h. Final Design and details for Ferry Landing electrical systems and components including general plans and elevation of electrical components and systems, one-line and three-line power diagrams, motor starter diagrams, control schematics, conduit and wiring schedule, equipment schedule, panel board schedule, and associated details.

    i. Provide LRFR bridge ratings including inventory and operating rating for HL-93 and inventory rating for LADV-11 for the Ramp Bridges. The bridge rating shall be performed in accordance with the latest edition of the AASHTO Manual for

Bridge Evaluation, LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and Bridge Design Technical Memoranda. The bridge rating report shall also be prepared in accordance with the aforementioned publications for each structure.

2. Production and transmittal of Plans, specifications and/or special provisions and non-standard (NS) pay items, and Engineer's Construction Cost Estimate.

Project Schedule and Deliverable Milestones: shall be as determined by the Department in coordination with the Consultant.

Consultant Submittals

- Design Criteria
- 30%, 60%, 90%, 100% Preliminary Plans
- 30%, 60%, 95%, 100% Final Plans
- Special Provisions and NS Pay Items
- Construction Cost Estimate
- Design Calculations
- As-Designed Bridge Rating Reports

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY DOTD

- As-built plans of existing ferry landings
- Most recent DOTD inspection reports
- Existing bridge rating report or rating summary sheet

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY ENTITY

- Approach Roadway (West Bank)
    - Survey Data & Maps
    - Geotechnical Data
    - Final / As-Built Plans & Specs

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.

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 engineer, registered in the state of Louisiana, and shall have a minimum of ten (10) years of experience in responsible charge of design of movable bridge structures.
4. 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.
5. At least one (1) registered professional land surveyor, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in conducting Topographic Surveys for DOTD.
6. At least one (1) registered professional engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of Geotechnical experience including pile-supported structures in soft coast soils of Louisiana.
7. At least one (1) field crew driller/supervisor shall have a minimum of ten (10) years of experience, of which, at least five (5) years demonstrated within the state of Louisiana.

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

MPR Nos. 1, 2 and 3 may be met by the same person.

OR

MPR Nos. 1, 2 and 4 may be met by the same person.

MPR Nos. 5 through 7 must be met by separate individuals and 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.

Although the MPRs must be met by the prime consultant only, this does not preclude the use of sub-consultant(s) in the performance of the contract.

- 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.

- The technical staff is to possess familiarity with design, construction, and/or maintenance of ferry landing structures.