ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
APRIL 26, 2021

ADDENDUM NO. 1, MAY 6, 2021
CONTRACT NO. 4400021517
CONTRACT 5 FOR MOVABLE BRIDGES (6)
STATE PROJECT NOS. H.011998, H.011990, H.013819, H.011997, H.012043 AND H.010001
F.A.P. NOS. H011998, H011990, H013819, H011997, H012043 AND H010001
VERMILION, LAFAYETTE, ST. MARTIN, AND CALCASIEU PARISHES

DBE GOAL = 7%

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 each 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.

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 19 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 19 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 as needed)

Evaluation Discipline(s)	% of Overall Contract	Prime	Firm B	Firm C	Firm D	Firm E	Firm F
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 Other. The crosswalk from the old categories to the new categories can be found at the link below: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/General%20Information/CPPR%20Crosswalk%20to%20New%20Evaluation%20Disciplines.pdf.

If sub-consultants are allowed, 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 **10 years**.

COMPENSATION

The estimated compensation payable to the consultant for all services rendered in connection with this contract shall be **$9,000,000**. This estimate will be used for grading purposes only. Actual compensation will be determined by DOTD based on work hours negotiated between DOTD and the selected consultant. Within fifteen (15) calendar days of notification of selection, a kick-off meeting will be held with the selected consultant and appropriate DOTD personnel. The selected consultant will be required to submit a work hour proposal within thirty (30) calendar days following the notification of selection. All negotiations must be completed within the timeframe set forth in the Consultant Contract Services Manual.

Payment will be made based on 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. 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.

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.

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 contract proposals must include a QA/QC certification that the proposals meet the requirements of the QA/QC plan document.~~ Attach the QA/QC plan behind Section 22 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. **Copies of training certificates are to be included in Section 22 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 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 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

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. ASTM Standards – https://www.astm.org/BOOKSTORE/BOS/index.html
2. 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
3. DOTD Construction Contract Administration Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pages/Engineering_Docs.aspx
4. DOTD Materials Sampling Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_MSM.aspx
5. Federal Aid 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
6. AASHTO - The American Association of State Highway Transportation Officials (all applicable specifications) – https://store.transportation.org/
    a. *LRFD Bridge Design Specifications* https://store.transportation.org/Item/CollectionDetail?ID=152
    b. *LRFD Movable Highway Bridge Design Specifications* https://store.transportation.org/Item/CollectionDetail?ID=101
    c. *Manual for Bridge Element Inspection* (BEI) https://store.transportation.org/Item/CollectionDetail?ID=181
    d. *Manual for Bridge Evaluation* (MBE) https://store.transportation.org/Item/CollectionDetail?ID=179
    e. *Movable Bridge Inspection, Evaluation, and Maintenance Manual* https://store.transportation.org/Item/CollectionDetail?ID=150
    f. *Policy on Geometric Design of Highways and Streets* https://store.transportation.org/Item/CollectionDetail?ID=180
    g. *Roadside Design Guide* https://store.transportation.org/Item/CollectionDetail?ID=105
    h. *Standard Specifications for Structural Supports of Highway Signs, Luminaires, and Traffic Signals* https://store.transportation.org/Item/CollectionDetail?ID=126
    i. *Standard Specifications for Transportation Materials and Methods of Sampling and Testing* https://store.transportation.org/Item/CollectionDetail?ID=149

7. CFR - Code of Federal Regulations (all applicable)
   https://ecfr.io/
   a. Title 23, Highways
      https://ecfr.io/Title-23/
   b. Title 29, Chapter XVII (OSHA)
      https://www.dol.gov/general/cfr/title_29
8. NEPA - National Environmental Policy Act
   https://www.epa.gov/nepa
9. FHWA - Federal Highway Administration (all applicable laws, statutes, regulations, specifications, and policy)
   https://www.fhwa.dot.gov/resources/
   a. *Guidelines for Design and Rating of Gusset-Plate Connections for Steel Truss Bridges* (FHWA-HRT-14-063)
      https://www.fhwa.dot.gov/publications/research/infrastructure/structures/bridge/14063/14063.pdf
   b. *Inspection of Fracture Critical Bridge Members* (FHWA-IP-86-26)
      https://intrans.iastate.edu/app/uploads/2018/08/009349.pdf
   c. *Manual on Uniform Traffic Control Devices* (MUTCD)
      https://mutcd.fhwa.dot.gov/
   d. *National Bridge Inspection Standards* (NBIS)
      https://www.govinfo.gov/content/pkg/FR-2004-12-14/pdf/04-27355.pdf
   e. *NHI Bridge Inspector's Reference Manual* (BIRM)
      https://www.fhwa.dot.gov/bridge/nbis/pubs/nhi12049.pdf
   f. *Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges* (SI&A Recording Guide)
      https://www.fhwa.dot.gov/bridge/mtguide.pdf
10. IEEE - *National Electrical Safety Code* (NESC)
    https://standards.ieee.org/products-services/nesc/index.html
11. Louisiana Administrative Code (LAC) Title 34, Part III, Section 131 – *Louisiana Building Code*
    https://www.doa.la.gov/osr/LAC/34V01/34.doc
    a. ICC - *International Building Code* (IBC), 2015 Edition, not including Chapter 1 – Administration, Chapter 11 – Accessibility, and Chapter 27 - Electrical
       https://shop.iccsafe.org/codes/2015-international-building-coder.html
    b. ICC - *International Mechanical Code* (IMC), 2015 Edition
       https://shop.iccsafe.org/codes/2015-international-mechanical-coder.html
    c. ICC - *International Plumbing Code* (IPC), 2015 Edition, as amended by R.S. 40:1730.28.1
       https://shop.iccsafe.org/codes/2015-international-plumbing-coder.html
12. DOTD - *Bridge Design & Evaluation Manual* (BDEM) (all)
    http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx

a. BDEM, Part I, Chapter 3, *Policy for QC/QA*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx
b. BDEM, Part I, Chapter 6, *Design policy for Bridge Rehabilitation/Repair Projects*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx
c. BDEM, Part II, Volume 5, *Bridge Evaluation/Rating*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx

13. DOTD - *Bridge Design Pre-approved Software list*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/QCQA/Pre-Approved%20Software%20List%20-%20Consultant.pdf
14. DOTD - *Bridge Design Technical Memoranda* (BDTM) (all applicable)
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/Technical-Memoranda.aspx
15. DOTD – *Bridge Inspection Manual*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Operations/BridgeMaintenance/Misc%20Documents/Louisiana%20Bridge%20Inspection%20Manual%205-29-2020.pdf
16. DOTD - *CAD Standards*
http://www.altivasoft.com/LaDOTD/
17. DOTD - *Complete Streets*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Complete_Streets/Pages/default.aspx
18. DOTD - *Consultant Contract Services Manual*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Manuals/CCS%20Manual%202017.pdf
19. DOTD - *Design Guidelines*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Memoranda/Minimum%20Design%20Guidelines.pdf
20. DOTD - *Digital Plan Delivery Standards and Workflows*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Electronic_Plans_Delivery/Pages/default.aspx
21. DOTD - *Engineering Directives and Standards Manuals* (EDSM) (all applicable)
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/Pages/default.aspx

a. EDSM, I.1.1.8, *Establishment of Uniform, Regulatory Truck Weight Limits For Structurally Deficient Highway Bridges Located on Public Roads*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM_I_1_1_8.pdf
b. EDSM, I.1.1.28, *Procedures for Final Plan Transmittal and Final Plan Modifications Including Plan Revisions and/or Plan Changes Resulting from Change Orders*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM_I_1_1_28.pdf

c. EDSM, IV.4.1.2, *Louisiana Bridge Inspection & Load Rating Standards* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM_IV_4_1_2.pdf

d. EDSM, VI.1.1.8, *Transportation Management Plans* (TMP) http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/EDSM/EDSM/EDSM_VI_1_1_8.pdf

22. DOTD - *Stage 1 - Planning/Environmental Manual of Standard Practice* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Environmental/Pages/Stage_1.aspx
23. DOTD - *Geotechnical Services Document* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pavement_Geotechnical/Geotechnical%20Guidelines/Geotechnical%20Services%20Document.pdf
24. DOTD - *Guide to Constructing, Operating, and Maintaining Highway Lighting Systems* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Documents/Highway%20Lighting%20Systems%20Guide.pdf
25. DOTD - *Hydraulics Manual* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Public_Works/Hydraulics/Documents/Hydraulics%20Manual.pdf
26. DOTD - *Location and Survey Manual* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location_and_Survey_Manual.pdf
27. DOTD - *Location and Survey Manual - Addendum "A"* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location%20and%20Survey%20Manual%20-%20Addendum%20A.pdf
28. DOTD - *Louisiana Standard Specifications for Roads and Bridges* (LSSRB) http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications/Standard%20Specifications/2016%20Standard%20Specifications%20for%20Roads%20and%20Bridges%20Manual/00%20-%202016%20-%20Standard%20Specification%20(complete%20manual).pdf
29. DOTD - *Materials Sampling Manual* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/MSM-2006-Specs---Part-I.aspx
30. DOTD - *Road Design Manual* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Pages/Road-Design-Manual.aspx
31. DOTD - *Software and Deliverable Standards for Electronic Plans* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Electronic_Plans_Delivery/Electronic%20Plan%20Delivery%20Standards%20and%20Workflows/LaDOTD%20Software%20Standards%20for%20Electronic%20Plans.pdf
32. DOTD - *Testing Procedures Manual* http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_TPM.aspx

33. DOTD - *Traffic Engineering Manual*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
34. DOTD - *Traffic Engineering Process and Report*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Publications/Pages/TEPR.aspx
35. NFPA - All applicable codes
https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70
    a. NFPA 70 - *National Electrical Code* (NEC), 2014 Edition
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70
    b. NFPA 70E - *Standard for Electrical Safety in the Workplace*
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70E
    c. NFPA 79 – *Electrical Standard for Industrial Machinery*
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=79
    d. NFPA 101 - *Life Safety Code*, 2015 Edition
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=101
    e. NFPA 110 - *Standard for Emergency and Standby Power Systems*
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=110
    f. NFPA 780 - *Standard for the Installation of Lightning Protection Systems*
    https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=780
36. UL 96A – *Standard for Installation Requirements for Lightning Protection Systems*
https://standardscatalog.ul.com/ProductDetail.aspx?productId=UL96a
37. *Programmatic Agreement Regarding Management of Historic Bridges in Louisiana*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/HBI/Documents1/Section%20106%20Programmatic%20Agreement%20for%20Treatment%20of%20Louisiana%20Historic%20Bridges/Executed%20Programmatic%20Agreement.pdf
38. *Crossing the Bayou: Louisiana's Historic Bridges*
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/HBI/Documents1/Crossing%20the%20Bayou%20Louisianas%20Historic%20Bridges.pdf

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 **7%** 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 21, 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 using the most current version of the DOTD Form 24-102 (available at http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Pages/Manuals_Forms_Agreements.aspx). 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 15 of the DOTD Form 24-102 with an asterisk denoting their employment status.

The DOTD Form 24-102 should be identified with **contract number 4400021517 and/or State Project Nos. H.011998, H.011990, H.013819, H.011997, H.012043 and H.010001,** and must be received by DOTD via email **no later than 3:00 p.m. CST** on **Tuesday, ~~May 18~~ June 1, 2021**.

ATTACHMENT A – SCOPE OF SERVICES

The project time for all state project numbers are **typical**.
The route classification for all state project numbers are **Non-NHS State** unless otherwise noted*.

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

MOVABLE BRIDGE PROJECTS / STRUCTURES

1. **State Project Number:** **H.011998**
   - Structure Name: ..... **Abbeville By-Pass**
   - Recall Number: **009460**
   - Structure Type: ..... **Vertical Lift**
   - District: **03**
   - Parish: ..... **Vermilion**
   - Route: ..... **LA 14**
   - Crossing: ..... **Vermilion River**
   - In/Near: ..... **The city/area of Abbeville**
   - Latitude: **29.98355**
   - Longitude: ..... **-92.13654**
   - Historic Bridge Category: ..... **Preservation Priority**
   - Load Posting: ..... **Not Posted**
   - Original State Project Number: **055-30-0001**
   - Constructed: **1964**

   Perform LRFR Load Rating: ..... **Yes**
   Perform NBIS In-Depth Bridge Inspection: ..... **Yes**

2. **State Project Number:** **H.011990**
   - Structure Name: ..... **Milton**
   - Recall Number: **006520**
   - Structure Type: ..... **Vertical Lift**
   - District: **03**
   - Parish: ..... **Lafayette**
   - Route: ..... **LA 92**
   - Crossing: ..... **Vermilion River**
   - In/Near: ..... **The city/area of Milton**
   - Latitude: **30.10381**
   - Longitude: ..... **-92.07968**
   - Historic Bridge Category: ..... **Preservation Candidate**
   - Load Posting: ..... **15T / 25T**
   - Original State Project Number: **213-05-0005**
   - Constructed: **1948**

   Perform LRFR Load Rating: ..... **Yes**
   Perform NBIS In-Depth Bridge Inspection: ..... **Yes**

3. **State Project Number:** **H.013819**
   - ***Route Classification:** **NHS**
   - Structure Name: **Parks**
   - Recall Number: **008700**
   - Structure Type: **Vertical Lift**
   - District: **03**
   - Parish: **St. Martin**
   - Route: **LA 350**
   - Crossing: **Bayou Teche**
   - In/Near: **The city/area of Parks**
   - Latitude: **30.21699**
   - Longitude: **-91.82687**
   - Historic Bridge Category: **Preservation Candidate**
   - Load Posting: **25T / 40T**
   - Original State Project Number: **400-30-0006**
   - Constructed: **1950**

   Perform LRFR Load Rating: **Yes**
   Perform NBIS In-Depth Bridge Inspection: **Yes**

4. **State Project Number:** **H.011997**
   - Structure Name: **Old Abbeville**
   - Recall Number: **009430**
   - Structure Type: **Vertical Lift**
   - District: **03**
   - Parish: **Vermilion**
   - Route: **LA 14 Bus**
   - Crossing: **Vermilion River**
   - In/Near: **The city/area of Abbeville**
   - Latitude: **29.97504**
   - Longitude: **-92.13917**
   - Historic Bridge Category: **Preservation Candidate**
   - Load Posting: **15T / 25T**
   - Original State Project Number: **6606**
   - Constructed: **1938**

   Perform LRFR Load Rating: **Yes**
   Perform NBIS In-Depth Bridge Inspection: **Yes**

5. **State Project Number:** **H.012043**
   - ***Route Classification:** ..... **NHS**
   - Structure Name: ..... **West Fork**
   - Recall Number: **033353**
   - Structure Type: ..... **Vertical Lift**
   - District: **07**
   - Parish: ..... **Calcasieu**
   - Route: ..... **LA 378**
   - Crossing: ..... **Calcasieu River**
   - In/Near: ..... **The city/area of Lake Charles**
   - Latitude: **30.29685**
   - Longitude: ..... **-93.24889**
   - Historic Bridge Category: ..... **Preservation Candidate**
   - Load Posting: ..... **15T / 25T**
   - Original State Project Number: **713-21-0017**
   - Constructed: **1968**

   Perform LRFR Load Rating: ..... **Yes**
   Perform NBIS In-Depth Bridge Inspection: ..... **Yes**

6. State Project Number: **H.010001**
   - Structure Name: ..... **Ellender**
   - Recall Number: **031751**
   - Structure Type: ..... **Vertical Lift**
   - District: **07**
   - Parish: ..... **Calcasieu**
   - Route: ..... **LA 27**
   - Crossing: ..... **Intracoastal Waterway**
   - In/Near: ..... **The city/area of Hackberry**
   - Latitude: **30.06557**
   - Longitude: ..... **-93.34774**
   - Historic Bridge Category: ..... **Not Historic**
   - Load Posting: ..... **Not Posted**
   - Original State Project Number: **031-04-0018**
   - Constructed: **1977**

   Perform LRFR Load Rating: ..... **Yes**
   Perform NBIS In-Depth Bridge Inspection: ..... **Yes**

PROJECT DESCRIPTION

Inspect the movable bridge structures referenced above, and develop a Scope of Work to rehabilitate/replace each structure. Work shall be limited to all portions of the bridge structure (see Definitions) that are above ground or above mean water level unless otherwise directed by the Project Manager.

Perform an LRFR Load Rating and/or an NBIS In-Depth bridge inspection on the structures listed above if indicated.

The development of construction documents and the performance of construction related engineering services will be added to the contract by Supplement as needed to fulfill the Department's annual bridge program.

Stage 3: Design

- Document Review
- Pre-Design Meeting with DOTD District and Design Personnel
- Site Inspections
- LRFR Load Rating
- NBIS In-Depth Bridge Inspection
- Scope of Work Proposal
- Scope of Work Meeting
- Scope of Work Report
- Construction Documents
- Permits
- Pre-Letting Questions from Contractors
- Plan Revisions and Addenda

Stage 5: Construction

- Pre-Construction Meeting
- Shop Drawing Review
- RFI Review
- Change Order Documents
- Mechanical/Electrical Shop Inspections and Testing
- Structural, Mechanical, Electrical, and Architectural Site Inspections
- Final Site Inspection, Span Setup, and Testing

DEFINITIONS

1. **Bridge Structure:** Includes the embankment and abutment, approach spans and bents, main pier(s), pivot pier, counterweight towers, movable span(s), pier protection system/fender system, operator's house and foundation, machinery house and foundation, and traffic control devices and foundations, and all connecting wires and conduit.
2. **Project Manager (PM):** The Department's representative overseeing the administration of the Consultant contract and the development of all construction documents.
3. **Project Engineer (PE):** The Department's representative overseeing the construction contract.
4. **DOTD, Department:** The Louisiana Department of Transportation and Development.
5. **District:** The DOTD District in which the bridge structure is located.

HISTORIC BRIDGE PRESERVATION

Many Louisiana movable bridges have been designated "Historic" in the Section 106 document, *Programmatic Agreement Regarding Management of Historic Bridges in Louisiana* (see References). If the structure has been listed in this document as either "Preservation Priority", "Preservation Candidate", or "Preservation Non-Priority", all Engineers of Record assigned to the

project must complete the Department's training class, "Maintenance and Rehabilitation of Historic Bridges", prior to beginning work. All repairs, rehabilitations, and improvements to these structures must be performed in accordance with the programmatic agreement and the required training.

The Department has made a commitment to preserve all structures designated as "Preservation Priority". These structures will not be considered for replacement. They shall be rehabilitated.

MEASUREMENT SYSTEM

All work performed and all documents produced under this contract shall utilize English units of measurement.

WORK PROPOSAL AND SCHEDULE

Prior to developing the man-hour and direct expense proposal for Tasks 1 through 7, develop a work proposal/schedule for each bridge structure, and submit it to the Project Manager for review. Once approved, it shall be the basis for the man-hour and direct expense proposal. The schedule shall be broken down by bridge structure, and shall show the following:

1. Personnel that will participate in the site inspections.
2. Work days and travel days.
3. Required lane closures (if needed). Must be approved by the District.
4. Proposed inspection methods/equipment such as snooper trucks, man lifts, boats, drones, rope access, specialized measuring devices, etc.

DELIVERABLES

See Tasks 3, 4, 5, 7, 8, and 9 for a description of the required deliverables. All Deliverables shall meet the following requirements.

1. Deliverables shall be developed in accordance with the following:
    a. These specifications and the directions of the Project Manager.
    b. All DOTD and Bridge Design Section standard practices.
    c. DOTD - *Software and Deliverable Standards for Electronic Plans.*
    d. EDSM, I.1.1.28, *Procedures for Final Plan Transmittal and Final Plan Modifications Including Plan Revisions and/or Plan Changes Resulting from Change Orders.*
    e. Plan sheets shall meet all DOTD CAD Standards.
    f. DOTD *Standard Specifications for Roads and Bridges.*
    g. In the event that any Delivery Standards have conflicts, the Consultant shall contact the Project Manager for clarification.
2. All Deliverables shall be submitted in accordance with a schedule agreed upon with the Project Manager.

3. Prior to submittal to the Department, the Consultant shall review all deliverables (including those provided by Sub-Consultants) for compliance with all Department standard practices. The Consultant shall verify that Deliverables are complete, properly coordinated with other submittals, items are referenced correctly, and quantities are correct. Any corrections required shall be the responsibility of the Consultant.

4. **PDF Digital Files:** All documents that are specified to be submitted electronically in Portable Document Format (PDF) shall meet the following requirements:

    a. ISO 32000.

    b. Generated (when possible) directly from the native software (word processor, spreadsheet, CAD, engineering software, etc.) in which the document was originally created (not scanned).

    c. Hand calculations or other documents not created by software may be converted to PDF by scanning (black/white or color as appropriate) with a minimum 400 dots per inch (dpi).

    d. Reports shall include a Table of Contents with "hyperlinking" enabled to allow quick navigation to Chapters and Sections.

    e. Flatten all PDF files to prevent alteration.

5. Submit all native software files (word processor, spreadsheet, CAD, engineering software, etc.) from which final PDF documents were generated.

6. Submit all photographs taken during inspections/testing whether or not they were already submitted as part of a report, plan sheet, etc. Photographs shall be in JPEG file format with a minimum resolution of four megapixels.

7. Submit QC/QA documentation required by Part I, Chapter 3 of the BDEM with all deliverables.

8. Software, DOTD CAD Standard Resources, etc. used to develop project deliverables shall be updated/patched/maintained in a timely manner, and as directed by the Project Manager.

9. Upload all electronic deliverables to the Department's "ProjectWise" and/or "AssetWise" repository at each project milestone, and apply/maintain all indexing attributes (when applicable) as directed by the Project Manager.

STAGE 3: DESIGN

TASK 1: DOCUMENT REVIEW

Review all existing project documents for all movable bridge structures listed in the contract in accordance with the BDEM, Part I, Chapter 6, *Design policy for Bridge Rehabilitation/Repair Projects* 6.2.1 prior to performing site inspections.

TASK 2: SITE INSPECTIONS

Perform a site inspection of each movable bridge structure listed in the contract. The purpose of the site inspections is to develop a scope of work for future rehabilitation (or replacement) projects, and to develop a priority list for the projects. Coordinate with the Project Manager and the District Contact Person to schedule the site inspections.

1. **Attendees:** Required attendees include the Consultant's Project Manager, and the Civil Engineer, Mechanical Engineer, Electrical Engineer, Architect, and Paint Specialist that will be performing the majority of the design work on the project. Tasks 3 & 4 may require additional attendees.

   The Consultant can request approval from the Project Manager to include other attendees under the contract if they are needed to fulfill the scope of services.

2. **Safety:** When planning site inspections, the safety of the traveling public and inspection personnel shall be given the highest priority.

   a. Site inspections shall meet all safety requirements in Chapter 4 "Safety Practices" of the DOTD *Bridge Inspection Manual*.

   b. Perform inspections in accordance with all applicable Federal (OSHA) and State workplace safety laws and regulations.

   c. Provide personal safety equipment and bridge access equipment as needed/required.

   d. Utilize lane closures as needed.

   e. If rope access is to be used, the rope crew shall include a SPRAT (Society of Professional Rope Access Technicians) Level 3 certified Supervisor to oversee the crew and the rigging.

3. **Equipment:** Provide all equipment required to perform the inspection of the bridge structure. Use of rented equipment such as a snooper truck, man lift, boat, attenuator truck, drone, specialized measuring devices, etc., must be approved by the Project Manager. Costs of rented inspection equipment shall be included in the direct expense portion of the proposal.

4. **Labor:** Provide labor (if needed) to assist with bridge inspections (clean structural members, remove covers, etc.). Use of additional labor must be approved by the Project Manager.

5. **Lane Closures:** If needed, lane closures shall meet the following requirements:

   a. Consultant shall submit a request for a lane closure through the District contact person. Lane closures may require the site inspection to be performed at night or on the weekend.

   b. No more than one lane in each direction can be closed at the same time.

c. Lane closures shall be approved by the District Area Engineer and the District Traffic Engineer.

d. Coordinate with the District to determine all signage, equipment (message board, truck mounted attenuator, etc.), and labor (set up signs and barricades, flagmen, etc.) required for lane closures. All control signage, equipment, and labor not provided by the District shall be provided by the Consultant.

6. **Marine Closures:** A priority shall be placed on maintaining marine traffic during the site inspection. However, the Consultant may submit a request for a marine closure to the Project Manager. If approved, the Consultant shall negotiate the closure with the United States Coast Guard (USCG). If the closure is approved by the USCG, the Consultant shall perform all actions required by the USCG to execute the closure. All work shall be planned to minimize the length of the closure.

7. **Inspection Access:** Inspections shall be devised to allow Department personnel to have access at all times.

8. **Inspection Limits:** Site inspections are limited to the parts of the bridge structure (structural, mechanical, electrical, architectural) that are above ground and above mean water level.

9. **Purpose:** The site inspection shall accomplish the following:

   a. Meet with the Department's Bridge Design Section personnel and the District's Bridge Maintenance personnel at the bridge site to discuss their concerns about the structure.

   b. Perform an inspection that is of sufficient detail to evaluate the condition of the bridge structure in accordance with 6.2.2 of the BDEM, and in reference to the most recent bridge inspection report.

   c. Determine all structural, mechanical, electrical, and architectural repairs required to accomplish the following:

      1) Remove the structure's load posting (if practical).

      2) Extend the life of the bridge structure 40-50 years with routine maintenance.

      3) Meet current governing laws, codes, and regulation such as the Americans with Disabilities Act of 1990 (ADA) and the ADA Amendments Act of 2008 (ADAAA), Occupational Safety and Health Administration (OSHA), Life Safety Code, National Electrical Code (NEC), etc. Note that the operator's house and other bridge maintenance access is not required to comply with the ADA/ADAAA because the duties of the DOTD employees utilizing these areas require a non-disabled employee.

      4) Improve the structure's functionality, reliability, and/or maintainability.

      5) Improve the structure's survivability in a hurricane/flood event.

d. If the structure does not currently have a back-up generator, discuss with District personnel and the Project Manager the possible need for a permanent back-up generator. If a permanent back-up generator is not warranted, discuss if providing a convenient location to connect a portable generator would be appropriate.

e. For all timber fender systems, determine if the current design (if repaired) is adequate to protect the bridge structure from impacts by marine vessels that typically use the waterway. If it is, include repairs to the fender system in the scope of work. If not, propose an upgraded pier protection system.

f. Determine if/where additional maintenance access should be provided on the bridge structure.

g. Test and evaluate the protective coating systems on the bridge structure to determine appropriate repairs to extend the life an additional 20 – 25 years.

h. Measure and document the current operating times of the structure. This shall include an average time to open the span, an average time to close the span, and an average time of the overall operation from when the signal lights are first activated.

i. Measure and document the channel width and the channel vertical clearances with the span in the open and closed positions and compare with published values.

j. Determine methods for improving the appearance of visible (exposed) concrete especially on the barrier rails, girders, bents, and counterweights.

k. Determine if the structure should be rehabilitated or replaced based on criteria and methods described in 6.2.4 of the BDEM.

l. If an LRFR bridge load rating is required for the structure, perform an inspection that is of sufficient detail to facilitate this work (see Task 3).

m. If an NBIS in-depth bridge inspection is required for the structure, perform an inspection that is of sufficient detail to facilitate this work (see Task 4).

10. **Extensive Testing or Measuring:** Underwater inspections (by diver or acoustical methods), coupon sampling, half-cell corrosion detection, radiographic or ultrasonic crack detection, etc. are not required by this contract. If the inspection reveals potential issues that require methods beyond the scope of this contract to investigate properly, more in-depth inspection methods may be negotiated as extra work at the discretion of the Project Manager.

11. **Serious Deficiencies:** If the site inspection reveals a deficiency that affects the safe operation of the bridge structure, the Consultant shall notify the District Bridge Engineer and the Project Manager immediately. Examples include severe section loss in a critical structural member or critical, non-functioning mechanical/electrical equipment.

TASK 3: LRFR LOAD RATING (IF REQUIRED)

Perform an LRFR Load Rating on the bridge structure if indicated in the Movable Bridge Projects/Structures list. If a load rating is not indicated, but the inspection reveals structural deficiencies that require repair, a load rating will be required. The load rating shall be based on the current condition, capacity, and loading of the bridge structure, and shall be performed on all load carrying members. Both the approach spans and movable span(s) shall be rated. Load ratings shall be performed in accordance with these specifications and the directions of the DOTD Project Manager.

1. **Procedures:** Ratings shall be in accordance with all Department requirements, and shall meet or exceed the requirements of the current edition/revision of the following:

    a. DOTD - BDEM, Part I, Chapter 6, 6.2.3 *Evaluation of the Load-Carrying Capacity of the Existing Structures*

    b. DOTD - BDEM, Part II, Volume 5, *Bridge Evaluation/Rating*

    c. FHWA - *NHI Bridge Inspector's Reference Manual* (BIRM)

    d. AASHTO - *Manual for Bridge Evaluation* (MBE)

    e. All other applicable Manuals, Standards, and Directives required by DOTD, AASHTO, and the FHWA.

2. **Site Inspection:**

    a. The load rating site inspection shall be combined with the site inspection in Task 2.

    b. The inspection shall be supervised at all times by the Engineer that will be performing the load rating of the structure.

    c. Determine and document all repairs or improvements made to the structure since the original construction to insure that the load rating reflects the structure's current condition.

    d. Inspection of structural members and gusset plates:

        1) Use a straight edge to check gusset plates for distortion.

        2) Inspect for loose or broken bolts and rivets.

        3) Inspect for slippage of structural members with gusset plates.

        4) Inspect for cracking in structural members and gusset plates at bolt and rivet holes.

        5) Determine section loss of structural members and gusset plates. Use appropriate measuring devices such as ultrasonic thickness gages, calipers, etc.

3. **Load Rating Software:**

    a. AASHTOWare Bridge Rating (BrR) and Bridge Design (BrD) are the official load rating software to be used on DOTD projects. If the bridge structure can be defined and analyzed by BrR/BrD, it shall be used. Prior to performing the rating, verify the currently acceptable version of the software with the DOTD Bridge Rating Unit.

    b. If the bridge structure cannot be defined and analyzed by BrR/BrD, another rating software can be used from the DOTD Bridge Design Pre-Approved Software list. Prior to performing the rating, verify the currently acceptable version of the software with the DOTD Bridge Rating Unit.

    c. Use of any other load rating software must be approved by the Bridge Rating Unit prior to starting the analysis.

    d. Load rating software shall be provided as an indirect cost to the contract.

    e. An influence line/surface submittal is required for any structure element not rated using BrR/BrD. The influence line submittal form can be downloaded from the Bridge Design Section website (COMPSTIL2 standard input file).

4. **Modeling & Analysis:** Create a system structural model and perform analysis of the bridge to determine dead load and live load forces in the members.

    a. Dead load analysis shall reflect the current condition of the bridge structure.

    b. A three-dimensional structural model may be needed for complex bridges.

    c. If modeling using the AASHTOWare BrR/BrD software, use the "Girder System" when analyzing bridge superstructures.

    d. Live load analysis shall include HL 93 (INV), DOTD State legal loads, Emergency Vehicles, and Special Hauling Vehicles (SHV's).

    e. For substructures, if the HL-93 (INV) rating is greater than or equal to 1.0, no analysis of State legal loads, Emergency Vehicles, or SHV's is required.

    f. Secondary and temperature effects may need to be considered.

    g. Continuous pre-stressed concrete girder bridges shall be modeled and rated as simple span bridges unless a written exemption is approved by the DOTD Load Rating Engineer.

5. **Quality Control and Quality Assurance (QC/QA):** Perform all Quality Control/Quality Assurance as described in the BDEM – Part I – Chapter 3 – Policy for QC/QA.

6. **Repair of Deficient Members:** Develop repair alternatives for any structural member that is determined to be deficient by the load rating, and would otherwise require the bridge structure to be load posted. All repair alternatives shall be included in the Scope of Work Proposal in Task 5.

7. **LRFR Load Rating Report (Deliverable):** Prepare and submit a load rating report in accordance with all Department standard practices for content and general format, and as directed by the Project Manager.

    a. **Content:** Load Rating Report shall include the following:

        1) Pictures of deficiencies.

        2) Field measurements.

        3) Assumptions that influence the rating.

        4) Rating factors of each control member.

        5) Documentation of the condition of all deteriorated or rehabilitated members.

        6) All calculations including that performed by engineering software, computer spreadsheets, by hand, etc.

        7) The bridge rating software model.

    b. **Required Submittals:**

        1) Submit 30%, 60%, and 95% complete reports electronically in PDF format for review. Provide one (1) hard copy for each submittal.

        2) Submit a 100% complete (final) report electronically in PDF format with the title page electronically sealed, signed, and dated by the Engineer of Record. Provide one (1) hard copy.

8. **As-Built Plan Set (Deliverable):** If a load rating was required for the structure, but as-built construction documents do not exist or are incomplete, develop a new "as-built" plan set that can be used for the current and future load ratings.

    a. **Content:** This is not a complete "as-built" set of plans. Based on measurements taken during the site inspection, develop a new "as-built" plan set that provides enough information about the structure to perform the current and future load ratings. Plan sheets shall be developed in accordance with all Department standard practices for content and general format, and as directed by the Project Manager.

    b. **Required Submittals:**

        1) Submit 60%, and 95% complete plan sets electronically in PDF format for review. Provide one (1) hard copy for each submittal.

        2) Submit a 100% complete (final) plan set electronically in PDF format with the title page electronically sealed, signed, and dated by the Engineer of Record. Provide one (1) hard copy.

TASK 4: NBIS IN-DEPTH BRIDGE INSPECTION (IF REQUIRED)

Perform an NBIS In-Depth Bridge Inspection on the bridge structure if indicated in the Movable Bridge Projects/Structures list. NBIS in-depth bridge inspections shall be performed in accordance with these specifications and the directions of the DOTD Project Manager.

1. **Procedures:** Bridge inspections shall be in accordance with all Department requirements, and shall meet or exceed the applicable requirements of the current edition/revision of the following:

    a. DOTD – *Bridge Inspection Manual*

    b. DOTD - BDEM, Part II, Volume 5, *Bridge Evaluation/Rating*

    c. DOTD - EDSM, IV.4.1.2, *Louisiana Bridge Inspection & Load Rating Standards*

    d. AASHTO - *Manual for Bridge Element Inspection* (BEI)

    e. AASHTO - *Manual for Bridge Evaluation* (MBE)

    f. AASHTO - *Movable Bridge Inspection, Evaluation, and Maintenance Manual*

    g. FHWA - *National Bridge Inspection Standards* (NBIS)

    h. FHWA - *NHI Bridge Inspector's Reference Manual* (BIRM)

    i. FHWA - *Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges* (SI&A Recording Guide)

    j. All other applicable Manuals, Standards, and Directives required by DOTD, AASHTO, and the FHWA.

2. **General Requirements for the Site Inspection:**

    a. The NBIS in-depth site inspection shall be combined with the site inspection in Task 2.

    b. At least one member of the inspection team shall be a qualified Bridge Inspector who has successfully completed an FHWA approved comprehensive bridge inspection training course. This inspector shall be present at all times during the inspection, and will be in responsible charge of the development of the inspection report.

    c. Prepare a log and update it daily to record personnel, equipment used, and items inspected in a manner that corresponds to the nomenclature used on the original bridge plans.

    d. Conduct site inspections in an organized and systematic manner to maximize efficiency and minimize the possibility of a bridge component being overlooked.

    e. Record clear and detailed field notes that describe all issues and their locations on the bridge structure. Use sketches and photographs to supplement field notes and minimize verbal descriptions.

f. Identify and correct errors on the current Structure Inventory and Appraisal Sheets.

3. **Structural Inspection:** Perform a detailed, hands-on inspection of all structural components of the superstructure and the substructure in conformance with Department requirements and the references listed above.

   a. **General Requirements:**

      1) Inspect all structural members/components of the bridge structure. Structural members/components include the following:

         a) Embankment, abutments, and retaining walls

         b) Approach spans and movable span(s)

         c) All truss members

         d) Roadway (above and below) and its support members

         e) Apron spans and substructure (Pontoon Spans)

         f) Lift towers (Vertical Lift Spans)

         g) Lateral bracing, sway bracing, dummy cords, and wind links

         h) Structural steel connections, splice plates, and gusset plates

         i) Expansion joints, fixed and expansion bearings

         j) Bents and piers above ground or water

         k) Roadway barriers

         l) Sidewalks, curbs, stairs, handrails, and their support members.

         m) Traffic gate arms, movable barrier, movable barrier towers.

         n) Foundations of the operator's house, machinery house, and traffic control devices

         o) All other structural members/components

      2) Typical expected inspection techniques include non-destructive methods described in the DOTD "Bridge Inspection Manual", and include the use of inspection hammers to sound concrete and steel connections, and the use of electronic thickness meters to measure steel thickness.

      3) Sketch all deficiencies found. Sketches shall include the following:

         a) Length, width, and thickness of structural members/components.

         b) Location, original thickness, current thickness, and percent section loss of severe deterioration.

c) Location and details of any misalignment and/or collision damage.

d) Number and location of deteriorated/loose/missing bolts and rivets.

e) Length, width, depth, and location of significant cracks in steel components including plate girders, floor beams, stringers, truss members, grid decks, barriers, gusset plates, splice plates, bearings, handrails, and all other steel structural members/components.

f) Length, width, depth, and location of significant cracks and spalls in concrete components including piles, piers, bent caps, road decks, approach girders, barriers, and all other concrete structural components.

g) Significant failure of the protective coating system.

b. **Roadway Pavement:** Inspect and evaluate the condition of the roadway pavement, curbs, and sidewalks and their support members. Inspections shall be made from both above and below the bridge deck.

c. **Expansion Joints, Expansion Bearings, Dummy Cords, Wind Links/Wind Tongues:** Inspect all for damage/deterioration. Examine for signs of recent satisfactory movement. Establish a system of punch marks that can be used as reference points for current and future measurements. Measure joint opening and record temperature at time of measurement.

d. **Repair of Deficient Members:** Develop repair alternatives for any structural member/ component that is determined to be deficient, and would otherwise require the bridge structure to be load posted. All repair alternatives shall be included in the Scope of Work Proposal in Task 5.

4. **Mechanical Inspection:** Perform a detailed, hands-on inspection of all mechanical components of the bridge structure in conformance with Department requirements and the references listed above.

a. **Mechanical Movable Bridge Elements:** Inspect all mechanical systems, and rate them in accordance with the Department's Movable Bridge Element Guide (Appendix 17 of the DOTD *Bridge Inspection Manual*).

b. **Mechanical Systems/Equipment:** Include span drive systems, trunnion bearing assemblies, counterweight sheaves, counterweight ropes, operating ropes, span and counterweight guides, span locks, buffers, movable resistance barriers, traffic gates, apron spans, sewage treatment plants, HVAC, potable water lines, sewage lines, etc.

c. **Visual Inspections:** Inspect all bridge mechanical equipment for the following:

1) Damage, cracks, excessive corrosion, or excessive wear.

2) Damage to keys and keyways.

3) Proper lubrication levels. Lubricant leaks. Absence of lubricant on sliding surfaces.

4) Missing grease fittings and plugs.

5) Damaged or Ill-fitting access covers. Water intrusion of access covers.

6) Loose, corroded, broken, or missing fasteners/anchor bolts.

7) Shim pack deterioration.

d. **Dynamic Inspections:** Operate all bridge mechanical systems through multiple operations and inspect for the following:

1) Proper operation of mechanical equipment.

2) Proper setting of limit switches. Record operating times.

3) Unusual or excessive noise or vibration.

4) Use an infrared temperature gun/camera to check for overheating.

5) Axial and radial movement of shafts in motors, gearboxes, roller bearings, and couplings.

6) Binding or interference.

7) Shaft, coupling, and machinery alignment.

8) Shaft seal damage on roller bearings, gearboxes, motors, and/or couplings. Seal damage on access doors and inspection covers.

9) Movement at unexpected locations.

e. **Strain Gauge Testing:** Perform strain gauge testing on the pinion shafts to measure operating loads, load sharing, and span imbalance.

f. Perform additional inspections to the following mechanical items (if applicable):

1) **Brakes:** Check brake wheel alignment and thruster fluid level. Measure brake wheel clearance and remaining thickness of brake pads. Verify brake setting and powered/manual release if possible.

2) **Enclosed Gear Reducers:** Remove inspection covers where possible, and inspect gears, seals, shafts, roller bearings, and linkages. Sample lubricant and analyze for water and iron contamination.

3) **Open Gearing:** Inspect for abnormal wear patterns, excessive wear, cracks, pitting, spalling, and/or plastic flow on gear teeth. Measure backlash and tooth alignment. Check for excessive radial runout of bull gears. Measure chordal tooth thickness and compare with original tooth dimensions if known.

4) **Trunnion Bearings:** Sample lubricant and analyze for water and iron contamination.

5) **Span Drive Shaft Bearings:** Remove caps if possible, and inspect roller bearing and seals. Sample lubricant and analyze for water and iron contamination.

6) **Couplings:** Inspect for movement between coupling hubs, movement relative to the shaft, and loose, deformed, or missing coupling bolts.

7) **Operating Ropes:** Inspect along the entire length of the ropes for flattening, broken strands, corrosion, and condition of lubricant. Pay close attention at sockets/ connections.

8) **Counterweight Ropes:**

   a) Inspect along the entire length of the ropes for flattening, broken strands, corrosion, and condition of lubricant. Pay close attention at splay blocks and sockets.

   b) Measure rope diameters from a representative number of locations that appear to show the worst wear/corrosion. Compare measured diameters to the original diameter.

   c) Inspect connecting rods/pins/shims for damage and corrosion.

   d) Measure rope tensions, and report on tension distribution.

9) **Counterweight Sheaves:** Measure groove wear with a groove gauge.

10) **Air Buffers:** Verify proper operation including timely piston reset. Inspect for damaged mounting brackets and bent piston rods. Install pressure gauge if possible to verify operating pressure.

11) **Counterweight Guides:** Inspect guide rails for verticality and plastic deformation. Inspect guide rollers for damaged or seized bearings.

12) **HVAC Systems:**

   a) Inspect units for damage or excessive corrosion. Verify proper operation including interlocks with vent fans, firestats, smoke detectors, and safety cut-off switches (where applicable).

   b) Verify condensate line is draining properly.

   c) Inspect duct system (if any) for disconnected/leaking joints, damaged insulation, and condensation.

13) **Plumbing Systems:**

   a) Inspect exposed potable water lines and supports for damage and excessive corrosion. Identify leaks, insufficient support, and damaged/missing insulation or jacketing. Fully open and close shutoff valve to verify proper operation with no leaks.

   b) Inspect exposed sanitary sewer lines and supports for damage and excessive corrosion. Identify leaks and insufficient support.

   c) Verify no obstructions in plumbing vents through roof.

14) **Water Wells and Booster Pumps:** Inspect for general damage and excessive corrosion. Verify that well/booster pump is operating within proper pressure range.

15) **Bathroom Fixtures:** Inspect for damage, leaks, and proper function of all valves.

16) **Water Heaters:** Verify proper operation and temperature settings. Test Temperature and Pressure (T&P) valve. Missing T&P valves shall be brought to the attention of District personnel immediately. Inspect pan for severe corrosion or standing water.

17) **Sewage Treatment Plants:** Inspect for general damage and excessive corrosion. Verify operation of blowers and chlorinator. Verify effluent line is flowing unobstructed.

a) Inspect exposed potable water lines and supports for damage and excessive corrosion. Identify leaks, insufficient support, and damaged/missing insulation or jacketing.
b) Inspect exposed sanitary sewer lines and supports for damage and excessive corrosion. Identify leaks and insufficient support.

5. **Electrical Inspection:** Perform a detailed, hands-on inspection of all electrical components of the bridge structure in conformance with Department requirements and the references listed above.

a. **Electrical Movable Bridge Elements:** Inspect all electrical systems, and rate them in accordance with the Department's Movable Bridge Element Guide (Appendix 17 of the DOTD *Bridge Inspection Manual*).

b. **General Requirements for all Electrical Equipment:** Inspect for general damage, excessive corrosion, damaged support brackets, and missing/corroded/broken fasteners. Inspect for signs of frequent submergence in flood events. Identify all National Electrical Code (NEC) violations.

c. **Indoor/Outdoor Light Fixtures and Outlets:** Inspect for damage and water intrusion. Verify proper operation of light fixtures/ballasts and switches. Verify proper operation and wiring of outlets.

d. **Conduit:** Inspect all above ground conduit for damaged/broken couplings, damaged coatings, and damaged/corroded support brackets and fasteners.

e. **Conductors:** Inspect for overall condition of insulation, improper/loose wire connections, and corrosion of wires and terminal connections.

f. **Junction Boxes, Pull Boxes, and Enclosures:** Inspect for damaged conduit connectors, corroded or missing cover fasteners, missing breathers or drains, ill-fitting or damaged covers, damaged or missing cover seals, water intrusion and retention, insect infestation, corroded conductors and terminals, and corroded or missing mounting brackets and fasteners.

g. **Main Power Service:** Inspect for damage to mounting pole/brackets. Determine if power service should be raised to prevent submergence in flood event.

h. **Back-up Generator:** Coordinate with the Bridge Tender to perform generator testing. Inspect engine mounts, anchorages, and for any other general damage. Measure fluid levels, and inspect for fluid leaks. Verify automatic start-up, remote start-up, and operation of automatic transfer switch. Verify operation of all on-board meters and gauges. Perform two consecutive operations of the span with the generator minimally loaded. Measure output voltage and amperage to verify calibration of on-board meters and gauges. Perform two consecutive operations of the span with the generator fully loaded (if possible). Use infrared temperature gun/camera to check for overheating of any part of the generator.

i. **Control Desk:** Inspect and verify operation of all equipment in the control desk including control switches, indicator lights, display screens, maintenance mode switches, by-pass switches, other meters/displays, etc. Verify all labeling.

j. **Switchboard:** Inspect and verify operation of all equipment in the switchboards including circuit breakers, control relays, control contactors, etc. Verify all labeling.

k. **Span Drive/Selsyn Motors:** Use a power recorder (e.g. Fluke 1750 or similar) to record voltage and amperage for a minimum of one full operation (open and close).

l. **Movable Resistance Barriers and Traffic Gates:** Verify electrical controls and interlocks are operating correctly. Verify proper operation and setting of limit switches. Inspect condition of reflective tape and height of gate arm from roadway. Verify operation of warning lights.

m. **Traffic Signal Lights:** Inspect for damage to signal heads and anchorages, proper operation of signal lights, lumens of light bulbs.

n. **Navigation Lights:** Inspect for proper operation, water intrusion, lenses, anchorage, and light output.

o. **Grounding System:** Inspect the entire bridge grounding system including cables, ground rods, fasteners, and lugs.

6. **Architectural Inspection:** Perform a detailed inspection of all architectural components of the bridge structure in conformance with Department requirements and the references listed above.

   Inspect Operator's House and Machinery House(s) for the following:

   a. General interior and exterior damage.

   b. Foundation issues.

   c. General condition of roof and all roof components including flashing, roof scuppers, roof drains, and downspouts. Note any roof leaks, obstructions of roof drains and downspouts, or missing drain domes and screens. Estimate remaining roof life.

   d. Broken, leaking, or missing windows. Damaged or missing louvers. Damaged or missing insect screens.

   e. Damaged interior or exterior doors. Damaged or missing door hardware.

   f. Damaged countertops, cabinets, or drawers. Broken or missing cabinet hardware.

   g. Damaged restroom accessories such, mirrors, toilet tissue dispensers, paper towel dispensers, soap dispensers, etc.

   h. Cracks or holes in plaster/gypsum board.

   i. Damaged ceiling grid and tiles. Damaged or missing wall/floor tiles.

   j. Damaged or corroded stairs, ladders, and barrier rails (handrails).

   k. Violations of the Life Safety Code.

7. **Protective Coating System Inspections:** Perform a detailed field inspection of all protective coating systems on the bridge structure in conformance with Department requirements and the references listed above.

   a. Inspections shall be conducted by a certified SSPC Protective Coating Specialist or a certified NACE Bridge Coating Inspector.

   b. Corrosion inspection shall be conducted in accordance with ASTM F 1130 diagrams for "Overall Extent of Failure" and "Extent within Affected Area". The type of corrosion must be associated with the rating.

   c. Perform laboratory tests to determine the level of lead and/or other heavy metals contained in the coating system in accordance with ASTM D 3618.

   d. Perform field tests to determine the adhesive strength of the existing primer in accordance with ASTM D 4541.

   e. Perform field tests to determine the thickness of the existing coating systems in accordance with ASTM D 7091.

   f. All field inspection, laboratory test, and field test results shall be reported by structure and segment number (segment sequence information to be provided by DOTD).

8. **NBIS In-Depth Bridge Inspection Documentation (Deliverable):** Inspection documentation shall be in accordance with the DOTD *Bridge Inspection Manual*.

   a. **Assetwise:** Inspection documentation shall be submitted in PDF format, and shall be input directly into the Department's "Assetwise" electronic database. The Department's Bridge Maintenance Section (Section 51) will provide training on the use of the "Assetwise" database prior to the inspection. Inspection documentation shall include the following:

      1) A description of the overall bridge structure.

      2) A summary of the structure's current condition with color photos and sketches.

      3) A tabulated summary of the condition of each fracture critical member and each fatigue sensitive detail based on the findings from the visual inspection.

      4) All pictures, sketches, and field notes produced during the inspection.

      5) Results of all testing.

      6) Protective coating system assessment.

      7) A summary list of "Immediate" maintenance items that should be addressed within 2 years.

      8) A summary list of "Programmed" maintenance items that should be addressed within 2-6 years

      9) A schedule of "Regular" maintenance items that should be part of the Department's routine maintenance of the structure. Schedule shall describe how to perform the maintenance item, and the frequency with which it should be repeated. For lubrication items, the Consultant shall research the optimum lubricant that should

be used for the specific application. Include lubricant recommendations in the report based on this research.

b. Complete all Structure Inventory, Appraisal (SI&A), and BMS forms. Submit electronic copies of the forms to the appropriate agencies.

c. Complete all other Department required forms.

TASK 5: SCOPE OF WORK PROPOSAL (DELIVERABLE)

Develop a Scope of Work Proposal, and submit it to the Project Manager for review. The Proposal shall be developed in accordance with 6.2.5 of the BDEM and as specified herein.

1. **Content:** The Scope of Work Proposal shall list all recommended repairs and improvements to the bridge structure based on the requirements listed in the Site Inspection. For each repair/improvement listed in the Proposal, the Consultant shall:

   a. Provide a written description of each issue, and include picture(s) of the current condition.

   b. Designate each repair/improvement as a high, medium, or low priority.

   c. Provide alternate repair methods and costs for each issue. Describe pros and cons of each repair method.

2. **Factors:** The Consultant shall consider the following factors when proposing repairs/ improvements. All factors should be given equal weight:

   a. Cost of the repair/improvement.

   b. Value added to the bridge structure such as better maintenance access, higher reliability, easier maintenance, better survivability of mechanical and electrical systems during storm events, etc.

   c. Safety of vehicular traffic, marine traffic, pedestrians, and Department employees.

   d. Permanence of repair.

   e. Marine/vehicular closure time during construction.

3. **Format:** The Scope of Work Proposal shall include a hyperlinked table of contents, and shall be separated into the following sections:

   a. **Structural Repairs and Improvements:** This section shall include all repairs/ improvements to the bridge structure that are structural in nature.

   b. **Mechanical Repairs and Improvements:** This section shall include all repairs/ improvements to the movable bridge mechanical systems including the traffic gates and movable barriers.

c. **Electrical Repairs and Improvements:** This section shall include all repairs/ improvements to the movable bridge's power and control systems including the traffic lights.

d. **Architectural Repairs and Improvements:** This section shall include all repairs/ improvements to the operator's house, machinery house, or any other architectural aspect of the bridge structure. It shall include repairs to the operator's house mechanical and electrical systems.

e. **Paint System and Concrete Surface Improvement:** This section shall include recommendations for painting the structure as well as recommendations for improving the appearance of visible (exposed) concrete especially the barrier rails and counterweights.

4. **Required Submittal:** Submit a 100% complete (final) proposal electronically in PDF format for review. Provide four (4) hard copies.

TASK 6: SCOPE OF WORK MEETING

Coordinate and schedule a meeting with the Project Manager at the DOTD headquarters building to discuss the Scope of Work Proposal. Consultant personnel located out of state can attend the meeting by teleconference. The purpose of the meeting is to review the options in the Scope of Work Proposal, and to decide on a final scope of work for the Scope of Work Report.

TASK 7: SCOPE OF WORK REPORT (DELIVERABLE)

Develop a Scope of Work Report, and submit it to the Project Manager for review. The Scope of Work Report shall be based on the Scope of Work Proposal and the Department's comments at the Scope of Work Meeting.

1. **Content:**

   a. Describe a definitive scope of work for a future rehabilitation project.

   b. Include clear and complete descriptions of all issues with the structure, and clear and complete descriptions of all required repairs.

   c. Include pictures of the structure's existing conditions.

   d. Include a preliminary itemized construction cost estimate.

2. **Format:** Shall be similar to that of the Scope of Work Proposal.

3. **Required Submittals:**

   a. Submit a 95% complete report electronically in PDF format for review. Provide one (1) hard copy.

   b. Submit a 100% complete (final) report electronically in PDF format with the title page electronically sealed, signed, and dated by the Engineer of Record. Provide one (1) hard copy.

ADDITIONAL SERVICES

Since the purpose of Tasks 1 – 7 are to develop the scope of work for Tasks 8 and 9, man-hours and direct expenses for Tasks 8 and 9 will be negotiated and added to the contract as a Supplemental Agreement after Tasks 1 – 7 have been completed.

TASK 8: CONSTRUCTION PROPOSAL DOCUMENTS AND PRE-BID QUESTIONS

Construction Proposal Documents include preliminary plans, permit sketches, construction plans, transportation management plans, specifications, construction cost estimates, design calculations, constructability documentation, QA/QC documentation, plan revisions and addenda, and all other documents/forms required by the Department. They shall conform to all Department standard practices for content and general format, and as directed by the Project Manager.

All work for Construction Proposal Documents shall utilize English units of measurement.

The Department shall be responsible for the letting and award of the Project.

1. **Preliminary Plans (Deliverable):**

    a. **Content:** Develop such preliminary plans as needed for the acquisition of required permits, environmental clearance, and State Historic Preservation Office (SHPO) approval, and as directed by the Project Engineer. Preliminary plans shall be in accordance with the latest editions of the AASHTO LRFD Bridge Design Specifications, the DOTD Bridge Design Manual, and the DOTD Roadway Plan Preparation Manual.

    b. **Required Submittals:**

        1) Submit 95% complete preliminary plans electronically in PDF format for review. No hard copies are required.

        2) Submit 100% complete (final) preliminary plans electronically in PDF format. Each sheet shall be electronically sealed, signed, and dated by the Engineer of Record. Provide one full-size (1) hard copy.

2. **Permit Sketches & Permit Information (Deliverable):**

    a. **Content:** Develop all permit sketches and provide all structure specific information required by the U.S. Coast Guard (USCG), the U.S. Army Corps of Engineers (USACE), and any other government agency with permitting authority.

    b. **Required Submittals:**

        1) Submit 95% complete permit sketches electronically in PDF format for review. No hard copies are required.

        2) Submit 100% complete (final) permit sketches electronically in PDF format. Each sheet shall be electronically sealed, signed, and dated by the Engineer of Record. Provide one (1) hard copy.

3. **Construction Plan Set (Deliverable):**

    a. **Content:** Designs shall be in accordance with all required AASHTO specifications, all Department requirements and standard practices, and as directed by the Project Manager.

    b. **Format:**

        1) Plan sheets shall use the Department's current border, and shall follow all Department standard practices for plan development with regards to level of detail, layout, and format.

        2) The outside measure of each full-size plan sheet shall be 22 x 34 inches, and the top, bottom, and right hand margins shall be ½ inch.

        3) Lettering on full-size plan sheets shall meet Departments standards such that it is adequately readable when reduced by 50%.

        4) All plans submitted by the Consultant shall conform to the quality standards adopted by the Department. The Project Manager may reject any plans not conforming to these standards.

        5) Hard copies shall be submitted on high-quality, 24 pound, Premium Bond paper.

    c. **Required Submittals:**

        1) Submit 30%, 60%, and 95% complete Construction Plan Set electronically in PDF format for review. No hard copies required.

        2) Submit 100% complete (final) Plans electronically in PDF format. Each plan sheet shall be electronically sealed, signed, and dated by the Engineer of Record. Submit one (1) full-size hard copy.

4. **Marine and Vehicular Closure Schedule (Deliverable):** Develop a closure schedule that lists all repairs that will require either a marine or vehicular closure. The closure schedule shall be submitted as part of the construction plan set.

    a. As much as is practical, all repairs shall be designed to minimize both marine and vehicular closures. A priority shall be placed on maintaining marine traffic during the construction project. In general, repairs should utilize longer vehicular closures if this will minimize the marine closures.

    b. Prior to beginning design, the Consultant shall discuss with the United States Coast Guard (USCG) personnel and District personnel the type, frequency, and lengths of closures that can be allowed at each bridge site.

    c. The closure schedule shall list all repairs that will require a closure, and the maximum closure time allowed for each repair.

    d. Once a preliminary closure schedule is complete, the Consultant shall submit the closure schedule to the USCG and the Project Engineer for approval.

e. **Construction Work Schedule:** The construction contract shall require the Contractor to develop and submit a work schedule for approval prior to beginning work at the project site. The construction contract shall require the following:

1) The work schedule shall show the beginning and completion times for each repair item, and the beginning and completion times for each marine and vehicular closure.

2) For all requested closures in the schedule, the Contractor shall combine as many repairs as is practical. The Consultant shall assist the Project Engineer with determining if this has been accomplished by the Contractor.

3) The work schedule shall be updated monthly.

4) The work schedule and the vehicular closures must be approved by the Department, and the marine closures must be approved by the USCG prior to beginning work at the project site.

5) If the work schedule is not acceptable to either the USCG or the Department, the Contractor shall continue to negotiate the work schedule/closures until the work schedule is approved.

6) Once construction has begun, the Contractor shall follow all procedures and perform all actions required by the USCG when executing a marine closure.

5. **Transportation Management Plan (Deliverable):** Develop and submit a Transportation Management Plan (TMP) in accordance with EDSM VI.1.1.8. The TMP shall be submitted as part of the construction plan set.

6. **Technical Specifications (Deliverable):**

a. **Content:** Technical Specifications added to the contract as a special provision (not on plan sheets) shall be prepared on letter size sheets in accordance with all Department standard practices for content and format, and as directed by the Project Manager.

b. **Required Submittals:**

1) Submit 30%, 60%, and 95% complete Technical Specification electronically in PDF format for review in conjunction with the construction plan set. No hard copies required.

2) Submit 100% complete (final) Technical Specifications electronically in PDF format in conjunction with the construction plan set. Technical Specifications shall include a "Seal Sheet" that designates the Engineer of Record for each section of the specifications. This sheet shall be electronically sealed, signed, and dated by the Engineer of Record of each section. Submit one (1) letter-size hard copy.

7. **Construction Cost Estimates (Deliverable):**

    a. **Content:** Prepare a Construction Cost Estimate using DOTD's standard bid items, and as directed by the Project Manager. A "Summary of Estimated Quantities" plan sheet shall be furnished as part of the plan set to be used by the Project Manager for entry into the Department's AASHTOWare system. Plan sheet(s) shall use the Department's current border, and shall follow all Department standard practices for plan development with regards to level of detail, layout, and format.

    b. **Required Submittals:** Submit 30% and 100% complete Construction Cost Estimates electronically in PDF format for review in conjunction with the construction plan set. No hard copies required.

8. **Design Calculations (Deliverable):**

    a. **Content:** Prepare and submit all design calculations related to the plan development work in Task 8.

    b. **Required Submittals:** Submit a 100% complete (final) set of design calculations electronically in PDF format. The Design Calculations shall include a "Seal Sheet" that designates the Engineer of Record for each section of the design calculations. The "Seal Sheet" shall be electronically sealed, signed, and dated by the Engineer of Record of each section. Submit one (1) letter-size hard copy.

9. **Theory of Operation Document (Deliverable):** Prepare and submit a "Theory of Operation" document to be included in the Bridge Operation Manual prepared by the construction contractor.

    a. **Content:** Theory of Operation document shall be developed in accordance with the Bridge Design & Evaluation Manual (BDEM) and the Louisiana Standard Specifications for Roads and Bridges (LSSRB).

    b. **Required Submittals:**

        1) Submit 60%, and 95% complete Theory of Operation document electronically in PDF format for review. No hard copies required.

        2) Submit a 100% complete (final) Theory of Operation document electronically in PDF format. The Theory of Operation document shall include a cover sheet that is electronically sealed, signed, and dated by the Engineer of Record. Submit one (1) letter-size hard copy.

10. **Other Department Required Construction Documents (Deliverable):** Prepare and submit all other construction related documents and forms required by the DOTD Bridge Design & Evaluation Manual (BDEM), the DOTD Bridge Design Technical Memorandum (BDTM), the DOTD Engineering and Directives Manual (EDSM), etc. These include constructability/bidability documents and QC/QA documentation. The submittal schedule shall be as directed by the Project Manager.

11. **Pre-bid Questions (Deliverable):** Review pre-bid questions from Contractors as directed by the Project Manager. Prepare and submit responses to the Project Manager by email.

12. **Plan Revisions/Addenda (Deliverable):**

    a. **Content:** Prepare Plan Revision/Addenda documents (revised plan sheets, specifications, cost estimates, etc.) as directed by the Project Manager. Plan Revision/Addenda documents shall meet all requirements of the original contract documents.

    b. **Required Submittals:**

        1) Submit 95% complete Plan Revision/Addenda documents electronically in PDF format for review. No hard copies required.

        2) Submit 100% complete (final) Plan Revision/Addenda documents electronically in PDF format. Documents shall be electronically sealed, signed, and dated by the Engineer of Record in a similar manner as the original construction documents. Submit one (1) Full-size hard copy.

STAGE 5: CONSTRUCTION

TASK 9: CONSTRUCTION RELATED ENGINEERING SERVICES (CRES)

CRES include attendance at the preconstruction meeting, on-call support, shop drawing review, operation and maintenance manual review, Request For Information (RFI) review, development of change order documents, mechanical/electrical shop inspections, site inspections, final site inspection and testing.

DOTD has not retained the Consultant to make continuous inspections, or to provide exhaustive or continuous project review.

The Consultant does not guarantee the performance of, and shall have no responsibility for, the acts or omissions of any contractor, subcontractor, supplier or any other entity furnishing material or performing any work on the project.

1. **Preconstruction Meeting:** Responsible Engineers, Architects, and Paint Experts that are local shall attend the preconstruction meeting in person. Responsible personnel located out of State can attend the preconstruction meeting by conference call.

2. **On-call Support:** This item shall be used only when directed and authorized by the Project Manager or the Project Engineer.

    a. The Consultant shall be available to attend meetings with the Contractor within a twenty-four (24) hour period to discuss the plans, construction issues, unforeseen site conditions, etc.

    b. The Consultant shall develop minor design changes and plan/specification corrections within seven (7) calendar days.

3. **Shop Drawing Review:** Review all Contractor submittals, such as shop drawings, product data, O&M manuals, etc., as required by the Louisiana Standard Specifications for Roads and Bridges (LSSRB).

    a. Services 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.

    b. Reviews shall be limited to checking for conformance with the design concept, design specifications, quantities, details, dimensions, weights, gauges, etc. Consultant shall not review fabrication processes (unless specified in the plans), construction means or methods, work coordination between trades, or construction safety precautions, since all of these are the sole responsibility of the Contractor.

    c. Reviews shall be performed in accordance with all requirements of the LSSRB, and shall be completed within the time frames specified in 801.05.3.1 of the LSSRB.

    d. Review of shop drawings/submittals shall not relieve the Contractor of any contract requirements.

    e. The Consultant will not be responsible for any adverse effect if the Contractor deviates from the contract documents without first allowing the Consultant to review and approve the deviation through the RFI process.

4. **RFI Review (Deliverable):** Review Contractor RFIs as directed by the Project Engineer. Prepare and submit responses to the Project Engineer by email.

5. **Change Order Documents (Deliverable):** When required due to unforeseen work, construction errors, or plan errors, develop change order documents (PS&E's) at the direction of the Project Manager.

    a. Change order PS&E's shall meet all requirements of the original construction PS&E's and all Department change order requirements, unless otherwise directed by the Project Manager.

    b. If a change order is required due to a plan error, the change order documents shall be prepared by the Consultant at no additional cost to the Department.

6. **Mechanical/Electrical Shop Inspections and Testing:** Perform shop inspections of fabricated mechanical and electrical equipment/assemblies, and oversee shop testing of mechanical/electrical equipment as required by the construction contract.

    a. Request approval from the Project Manager prior to performing a shop inspection.

    b. **Shop Inspection Report (Deliverable):** Develop and submit in PDF format a shop inspection/testing report for each shop visit. Report shall include:

        1) Pictures and description of equipment/assemblies inspected.

        2) Punch list of items not in compliance with the contract documents.

3) Pictures and description of tests performed.

4) Results of tests performed.

7. **Site Inspections:** Perform periodic inspections of the project site as directed by the Project Engineer or Project Manager.

   a. Request approval from the Project Manager prior to performing a site inspection.

   b. **Site Inspection Report (Deliverable):** Develop and submit in PDF format a site inspection report for each site visit. Report shall include:

      1) Pictures and description of equipment/assemblies inspected.

      2) Punch list of items not in compliance with the contract documents.

8. **Final Site Inspection and Testing:** After construction is complete, perform a final site inspection of the bridge structure to ensure all work required by the contract has been performed. Test and adjust mechanical and electrical systems for proper operation.

   a. Perform the final site inspection and testing when directed by the Project Manager.

   b. **Final Site Inspection and Testing Report (Deliverable):** Develop and submit in PDF format a final site inspection report. Report shall include:

      1) Pictures and description of equipment/assemblies inspected.

      2) Punch list of items not in compliance with the contract documents.

      3) Description of all testing performed on the mechanical and electrical systems, adjustments made, and the performance results.

SERVICES TO BE PERFORMED / ITEMS TO BE PROVIDED BY DOTD

The Consultant is expected to review all documents below if they are available. Some of the documents will be made available to the Consultant by the Department after the contract is awarded. Other documents may need to be viewed at Department facilities, or purchased from the Department at the Department's standard rates.

1. Original construction plans, standard plans, shop drawings, and as-built drawings
2. Plans for previous rehabilitation/repair work
3. Current load rating reports
4. Current and previous NBIS bridge inspection reports
5. Current structure inventory and appraisal sheets
6. Traffic data
7. Accident reports

8. Maintenance records
9. Geotechnical and test pile information
10. Hydraulic data
11. Current scour report
12. Recent soundings of the river in the vicinity of the bridge
13. Electronic file with hyperlinks to all the documents in the "References" section
14. DOTD *Movable Bridge Elements Guide*
15. DOTD *Standard Procedures for Final Plan Transmittal and Modifications*

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 professional engineer registered in the state of Louisiana.
2. At least one (1) principal or other responsible member of the prime consultant shall be a professional engineer, registered in the state of Louisiana, in the discipline of civil engineering.
3. At least one (1) principal or other responsible member of the prime consultant shall be a professional engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in responsible charge of movable bridge projects.
4. At least one (1) environmental/permit specialist shall have a minimum of five (5) years of experience with the primary responsibility for authoring NEPA documents, and the acquisition of U.S. Coast Guard and U.S. Corps of Engineer permits.
5. At least one (1) professional civil engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in the structural design of movable bridges, approach spans, and roadways.

6a. At least one (1) professional mechanical engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in the design of mechanical systems for movable bridges ~~(including plumbing, HVAC, and waste water systems)~~.

6b. At least one (1) professional mechanical engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in commercial plumbing, HVAC, and waste water systems.

7. At least one (1) professional electrical engineer, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in the design of electrical systems for movable bridges.
8. At least one (1) architect, registered in the state of Louisiana, shall have a minimum of ten (10) years of experience in the design of commercial facilities.
9. At least one (1) professional land surveyor, registered in the state of Louisiana, shall have a minimum of five (5) years of experience in conducting topographic surveys.
10. At least one (1) certified SSPC protective coating specialist or certified NACE bridge coating inspector to evaluate the condition of the existing coating systems on the bridge structures.

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. 6a and 6b may be met by the same person.

MPR Nos. 4 through 10 may be satisfied through the use of a sub-consultant(s).

MPR Nos. 4 through 10: One individual may be used to satisfy up to two (2) of the MPRs listed.

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 15 of the DOTD Form 24-102 and their resumes included in Section 17 of the DOTD Form 24-102.