

EXHIBIT “I”

SCOPE OF SERVICES

I Project Details and Requirements

The CONSULTANT shall provide the professional, technical, and other personnel resources, equipment, materials and all other things necessary to complete this contract. For JSE0131 and JSE0132, the contract will provide plans to replace signal equipment and improve the following intersections in the Southeast District:

- Route 84/Kennett Street in Kennett
- Route 84/Main Street in Kennett
- Route 61/Cape Rock Drive in Cape Girardeau
- Route 62/Route 105 in Charleston
- Route WW/Henry Street in Poplar Bluff
- Business Route 60/9th Street in Poplar Bluff
- Route 160/Route Y in Doniphan

The contract would include the development of cost estimates at each stage, the development of a conceptual plan (including Traffic Safety and Operational Analysis with Alternatives), the development of preliminary plans, ROW plans development and submittal, Final plans and submittal of PS&E along with JSP's.

For JSE0133 the contract will provide plans for the installation of Accessible Pedestrian Signals at 38 signalized intersections at various locations in the Southeast District. The contract would include the development of cost estimates, development of preliminary plans, development of Final plans, and submittal of PS&E along with JSP's.

This scope of services is intended to be an accurate description of the items and tasks required for completion of the design of this project. However, each project is unique and may require more or less effort in an individual task to complete the design. The following information will explain and define in general terms the major design items of importance relating to this project. All the elements of work that are necessary to satisfactorily complete the design of this project may or may not be listed. The lack of a specific listing of an element or item in the scope of services does not in itself constitute the basis for additional services, supplemental agreements, and/or adjustment in compensation.

A more detailed description of the process and requirements used by MoDOT for completion of the design may be found in the MoDOT Engineering Policy Guide (EPG). The consultant is encouraged to review the appropriate sections as a means to supplement the information contained in the scope of services and provide additional guidance in the requirements and expectations of MoDOT for completion of the design services.

The provisions of the Design Consultant Agreement outlining the responsibilities of the CONSULTANT regarding the quality and accuracy of the deliverables and products shall apply to any decisions regarding determinations of additional services.

Preparation of a supplemental agreement is necessary prior to performance of any work, which is considered as additional services, not included in the original scope of services. The consultant will not be compensated for additional services performed prior to execution of a supplemental agreement. Only additional services, which are required due to changed or unforeseen conditions or are due to a change in the specified end product, will be considered for inclusion in a supplemental agreement.

The CONSULTANT shall prepare all plans through use of a Computer Aided Drafting (CAD) program. The CONSULTANT shall conform to the Missouri Department of Transportation Specifications for Computer Deliverable Contract Plans as referenced in the MoDOT EPG.

The CONSULTANT shall review "as built" plans, aerial photographs, manuscripts, etc. and other information to be provided by the Commission and make the necessary field investigations to assure that there have been no significant changes since the information was recorded or obtained.

The CONSULTANT shall prepare a design criteria memorandum for this entire project, and submit it to the COMMISSION for review and approval prior to starting the preliminary design phase. Any deviations from Commission established procedures for design, construction or materials shall be approved through the MoDOT project manager and documented by the CONSULTANT. This documentation shall include a brief justification for the deviation and the signature of the CONSULTANT project manager.

The consultant shall perform the following services, all in accordance with the standard practice of the Commission and the following:

AASHTO "A Policy on Geometric Design of Highways and Streets" (7th Edition)

AASHTO "Roadside Design Guide" (4th Edition)

AASHTO "LRFD Bridge Design Specifications" (9th Edition)

AASHTO "Highway Drainage Guidelines" (4th Edition)

"Manual on Uniform Traffic Control Devices" (2009 edition)

"Highway Capacity Manual" (6th Edition)

Major task items included in the work include:

II Administration

The CONSULTANT shall participate in the following as part of the Administration tasks:

Attend Project Core Team Meetings. A total of four (4) core team meetings is assumed for the project. The CONSULTANT will be responsible for preparing meeting agendas with input from MoDOT and preparing meeting minutes for documentation.

Develop and implement a Quality Assurance Plan.

Hold periodic internal team meetings throughout the development of project.

Correspondence (emails, letters, meeting minutes, phone calls)

Personnel planning and scheduling control

Set up the project and conduct Kick-Off Meeting.

Coordination with subconsultants.

Participate in Public Meeting or Hearing (if required). Develop handouts and exhibits for meetings.

Provide monthly progress reports and invoices and review subconsultants invoices and reports.

Provide exhibits, sketches, and back-up data to MoDOT on an as-needed basis.

Provide information to support the SE District MoDOT staff in maintaining a public website for the project staff to inform the public and update impacts related to the project including timelines, changes to the project, meetings, comments.

III Public Involvement

The COMMISSION will be the main point of contact for receiving calls from the public. The CONSULTANT will interact with external agencies as required to accomplish the scope of services of this contract.

1. The CONSULTANT shall be required to attend meetings with regulatory agencies, organizations, county officials, local municipalities, property owners and other entities as required. A total of three stakeholder meetings, with various entities, is anticipated for the public involvement on this project.
2. The CONSULTANT shall participate in a planning meeting with MoDOT prior to any public meetings.
3. The CONSULTANT shall provide the COMMISSION a database containing all property owners contiguous to the project area, or within a reasonable distance of the project. The database shall provide contact information available for public involvement and environmental purposes (e.g. mailing addresses, phone numbers, email addresses, etc.) The database shall also designate whether the individual is someone the Commission will need to obtain right of way and/or easements from.
4. The COMMISSION shall advertise for meetings, obtain the meeting location and room

and perform mass mailings of notices of meetings or hearings, and newsletters.

5. The CONSULTANT shall prepare the exhibits as requested by COMMISSION for the public meetings or hearings.
6. The CONSULTANT shall produce copies of the handouts.
7. The COMMISSION shall provide the sign-in sheet/equipment and personnel for the sign-in table at each public meeting.
8. The CONSULTANT shall record and prepare the meeting minutes of the public meetings and shall prepare the transcript, if applicable.

IV Surveys

The CONSULTANT shall provide all topographic and boundary survey information required for the preparation of conceptual, preliminary, right of way, and final roadway plans including: topographic mapping, utility mapping, landlines, property lines, horizontal and vertical control, adjustment factor, any necessary staking, the development of survey plats, additional pick-up work during plans development, and the installation of permanent markers or monuments.

V Right of Way Title Services

The CONSULTANT shall conduct title searches and obtain title commitments in accordance with EPG section 236.4.4 for each affected property including:

1. Research impacted parcels. Each of these properties within the project limits shall include property owner name, assessor's map number, last deed book and page, and existing size of parcel in square feet.
2. Provide title insurance information for all parcels with new right of way acquisition and the last deed of record for any parcel with easements.

VI Utility Coordination

The CONSULTANT shall perform the following utility coordination tasks:

1. Coordinate to obtain One-Call tickets to have utilities located in identified areas of proposed project.
2. Obtain maps from utilities of their known locations and adjust survey limits as needed.
3. Coordinate with surveyor to complete utilities survey and verify completeness and accuracy of utility topographical survey.
4. Coordinate submittal of preliminary plans to utility companies.

5. Coordinate with utility companies on the development of the plan of adjustment and obtain cost estimates for reimbursable utilities for the District Utility Engineer's approval.
6. Show the existing utility facilities and plan of adjustments for proposed utilities facilities in the contract plans. (plans sheets, cross sections, culvert sections)
8. Coordinate relocation of each impacted utility on the project during design and construction.
9. Prepare special utility sheets as necessary (including utility profile and exhibits).
10. Assist District Utility Engineer in the preparation of agreements (includes municipal agreements).
11. Identify locations for power service needs, prepare service request for submittal and coordinate with the power company to obtain estimated costs.
12. Coordinate with MoDOT (PM and District Utility Engineer) and to provide SUE test hole information at critical utility locations.
13. Prepare utility job special provision and information for the preparation of the Utility Status Letter for District Utility Engineer.
14. Provide assistance and answer utility related questions during the construction phase for MoDOT staff and the roadway contractor.

VII Geotechnical Services

The CONSULTANT will be responsible for all geotechnical work necessary for the project.

The CONSULTANT shall provide a Preliminary Geotechnical report (PGR), signed and sealed by a Professional Engineer or Registered Geologist licensed in Missouri, in accordance with EPG Sections 320 and 321. Items to be addressed are:

- Soil types and geologic formations to be encountered across the project
- Excavation classification
- Grading Recommendations
- Slope Recommendations in accordance with Table 321.1.
- Unsuitable materials (if encountered)
- Settlement Investigation (if needed)

For any proposed retaining walls, the CONSULTANT shall perform an external stability analysis based on the maximum height of each wall and/or at any critical sections along the proposed wall, provide minimum wall embedment, minimum required soil reinforcement length (if necessary), an angle of internal friction and unit weight for the retained in-situ material, allowable bearing pressure and an angle of internal friction for the foundation material, and settlement analysis. If ground improvements are necessary, the CONSULTANT shall provide ground improvement recommendations and design, allowable bearing capacity of the improved ground and limits of any necessary ground improvements, typical cross-section(s) of the ground improvement, an angle of internal friction for the improved foundation and any other geotechnical requirements.

Borings may be advanced by continuous flight auger, SPT sampling methods using a *calibrated* automatic hammer, CPT, or other approved exploration methods. Bedrock should be cored with an appropriate (NX/NQ/etc) size core barrel, photographed, and placed in core boxes. One sample per 5 feet of core run is typically sufficient.

The CONSULTANT shall provide sufficient laboratory testing to provide the required engineering properties. All testing shall be completed by an AASHTO re:source certified laboratory.

The CONSULTANT shall provide, at a minimum, the following information on their boring logs:

- N value of blows per foot
- N_{60} value of blows per foot (corrected for the energy efficiency of the auto-hammer)
- Energy efficiency of the auto hammer
- Drilling equipment identification
- Boring locations (Coordinates and Elevations with datums)
- Laboratory test results (if not possible, test results should be provided within the report)

Standard penetration testing (SPT) and split-barrel sampling shall be performed in accordance with ASTM D1586 using an automatic hammer in accordance with section 7.4.1 Method A. The automatic hammers shall be calibrated in accordance with manufacturer's recommendations and ASTM D4633 at least every 2 years or sooner as required therein. The calibration report shall be prepared in accordance with ASTM D4633 and shall be signed and stamped by a professional engineer. During field exploration, the automatic hammer shall be run in accordance with manufacturer's recommendations and in accordance with the settings and rates that were used during the hammer calibration.

The CONSULTANT shall provide, at a minimum, a Geologist Registrant In Training (GRIT) or an Engineer Intern (EI) to log the borings in the field per MoDOT's logging protocol. The engineer or geologist shall have at least 2 years of experience logging boreholes. Logs shall be reported in gINT format. MoDOT will provide preferred gINT templates when requested. At final submittal, please provide a copy of the electronic gINT file, in addition to the final report deliverables.

The CONSULTANT will be responsible for attaining all necessary permits to perform the work.

The CONSULTANT will be responsible for contacting Missouri One-Call before drilling begins.

The CONSULTANT will be responsible for backfilling holes and patching the bridge deck and pavement borings, if necessary.

The CONSULTANT will be responsible for providing all traffic control, if necessary, and shall coordinate with MoDOT permit staff. (Lane closures may have time of day restrictions)

VIII DRAFT - Traffic Safety and Operational Analysis – Conceptual Plans for SE0131 and SE0132

The CONSULTANT shall perform the following tasks:

- 1) Initial Coordination / Scoping Meeting with MoDOT (Discuss limits of Study Areas)
- 2) Obtain intersection traffic counts.
- 3) Determine and analyze needs for each intersection for best operational capacity and safety to include but not limited to lane configuration, storage lengths, islands (to include consideration of free-flowing turn lanes), pedestrian facilities, signal timing, etc.) taking into consideration for different levels of right of way impacts for different levels of operational capacity and safety.
- 4) The CONSULTANT will develop up to two geometric alternatives at each intersection listed for SE0131 and SE0132.
 - a) Conduct a safety analysis utilizing methods described within the latest edition of the Highway Safety Manual (HSM).
 - i) Safety Analysis (Existing Condition)
 - ii) Safety Analysis (Proposed Conditions)
 - b) Establish horizontal and vertical geometry of alternatives
 - c) Establish typical section/lane configuration of alternatives
 - d) Estimate area of any R/W needed of alternatives
 - e) Identify potential design exceptions that may be required
 - f) Evaluate constructability of the alternatives
 - g) Develop alternatives based on standard practice and previously listed design guides.
- 5) The CONSULTANT will develop a conceptual opinion of probable construction cost for each alternative using current year bid tabulations to formulate an order of magnitude cost for each alternative.
- 6) The CONSULTANT will prepare a written draft summarizing the findings of Geometric Concepts, Safety Analysis, and Cost Analysis.
- 7) The CONSULTANT will submit an electronic copy of the draft report to MoDOT for review of the proposed recommendations and will finalize the report based on MoDOT comments and/or concurrence.

IX **Preliminary Roadway Design**

The CONSULTANT'S attention is directed to Chapter 235 of the MoDOT Engineering Policy Guide (EPG) for general guidelines and requirements for preliminary design. Other chapters may be applicable for preliminary design preparation.

- (A) Upon approval of the conceptual plan for each intersection by COMMISSION, the CONSULTANT shall undertake the following to develop the preliminary design phase:
 - a. Prepare preliminary plans, as outlined in the MoDOT EPG.
 - i. The COMMISSION shall furnish the CONSULTANT traffic information for the construction and design years to be used in the preliminary plans.
 - ii. The COMMISSION shall furnish the CONSULTANT the latest accident

data and traffic information used to calculate the project accident rate. The COMMISSION shall furnish the CONSULTANT the “statewide accident rate for a similar class of roadway” and any high hazard locations within the project limits.

- iii. The CONSULTANT shall submit the preliminary plans to the COMMISSION for review and approval.
- b. The preliminary plans shall be prepared in accordance with the applicable sections of the MoDOT EPG, as to what shall be shown thereon, including proposed design features.
 - i. The plan view English scale shall be 1”=50’ horizontal (or different scale as determined by MoDOT Project Manager for clarity) and extend 100 feet beyond project limits.
 - ii. The profile view English scale shall be 1”=50’ horizontal, and 1”=10’ vertical.
- c. The CONSULTANT shall prepare the construction estimate. The COMMISSION shall prepare the right of way estimate based on the right of way requirements furnished by the CONSULTANT.
- d. The preliminary plans shall be submitted to the COMMISSION for review and approval. A letter of transmittal shall be provided with the preliminary plan submittal. The COMMISSION shall furnish the template for the letter of transmittal. The construction cost estimate shall also be submitted with the preliminary plans.
- e. The preliminary plans shall include the tentative additional easement and right of way limits, property lines and ownerships, section lines, township and ranges, any U.S. Surveys, city limits, and a general outline of the construction staging, critical design items and other items as outlined in the EPG.
- f. Traffic assignments shall be shown on the respective roadways or on a line sketch of the roadways.
- g. Typical sections shall indicate heavy, medium or light duty pavement for new roadways, along with descriptions of the existing roadway types remaining in place.

(B) A Preliminary Field Check will be arranged by the CONSULTANT with the COMMISSION to discuss design features in the project area.

(C) The CONSULTANT shall provide the COMMISSION with information for proper environmental and cultural clearance including submittal of the preliminary stage RES, right of way stage RES and final stage RES. Items that may need to be addressed include historical buildings, archaeological sites, historic bridges, conversion of farmland, endangered species, wetlands, parklands and historical sites.

(D) The COMMISSION shall provide the pavement design and general Job Special Provisions related to the project including any special design elements.

- (E) The COMMISSION may hold a public meeting for this project and the CONSULTANT will be required to attend. The CONSULTANT shall provide exhibits for MoDOT public meeting as requested.

X Section 404 Corps of Engineers Permit – MAY NOT BE REQUIRED

The CONSULTANT shall provide the following information necessary to allow MoDOT staff to apply for any required Section 404 Corps of Engineer Permits. If the permit is required due to bridge construction, the application data shall be submitted no later than with the T.S.&L. drawings. All information should be provided to the MoDOT Project Manager who will forward the information to Central Office Design.

- (A) Provide the amount and type of excavation and material that will be used in streams, lakes, and wetlands below the Corps of Engineers' ordinary high water line (OHL) elevations.
- (B) Provide location and quantities of permanent berms and spill fills below OHL.
 - a. Earth fill, rock blanket (square feet and cubic yards)
 - b. Rock blanket along right descending bank and left descending bank (linear feet)
 - c. Rock ditch (square feet)
- (C) Provide location, excavation and size of pier below OHL.
 - a. Excavation (cubic yards)
 - b. Pier (square feet)
- (D) Provide channel realignment data.
 - a. Existing channel length of section to be modified (feet)
 - b. Average channel width of section to be modified (feet)
 - c. Realigned section, length and width (feet)
- (E) Provide temporary fill amounts in wetlands or below OHL in streams.
 - a. Earth fill (square feet and cubic yards)
 - b. Class C (square feet and cubic yards)
- (F) Provide information about temporary fills and shoring.
 - a. Location of temporary fills and shoring
 - b. Source of material
 - c. Final disposition of removed materials
- (G) Provide information about temporary culverts.
 - a. Number of culverts
 - b. Size (inches)
 - c. Length (feet)
- (H) Provide information on channel cleanout – excavation below OHL.
 - a. Cleanout upstream and downstream of structure (linear feet)
 - b. Total quantity of material to be removed below OHL (square feet and cubic yards)
- (I) Provide 8 ½-inch by 11-inch copies of any plan or profile sheets required for the permit application.
- (J) Provide bridge elevation and plan views with OHL indicated.

XI Right of Way Design

- (A) The CONSULTANT shall prepare right of way plans, which may be separate drawings from those used for design and construction details. The right of way plans shall show alignment, geometric design, removal of improvements, drainage facilities, property lines and ownership, sub-division lot lines, other land survey information, street lines and existing right of way and easements. The CONSULTANT should also include any plan details, which will require additional right of way or permanent, temporary or utility easements during the construction phase of the project such as bypasses, temporary erosion control, etc. Right of way plans include title sheet, typical sections, profile sheets, and cross sections of the roadway, entrances and side roads. Areas of new right of way, permanent easements and/or temporary easements required from each individual property owner may be shown in tabular form on the respective sheets.
- (B) Right of way plans shall be submitted to the COMMISSION for review and approval. The right of way plans shall be at the same scale as the construction plans. The right of way plans shall include any design details that will control the width of right of way and necessary easements.
- a. New right of way lines and all easements shall be dimensioned by station and offset distance from the centerline, or cross road centerlines, if necessary. Bearings and distances on the right of way lines may be required.
 - b. The following minimum design features shall be included on the right of way plans:
 - i. Title sheet with appropriate project limits, access note and traffic data completed.
 - ii. Typical Sections
 - iii. Cross sections at 100' intervals, including additional sections at each entrance with new and existing entrance grades.
 - iv. Construction limits (slope lines); drainage facilities; entrances and their reference location, width and type along with their existing and future grade percentage; property owners, with areas of new right of way, easements and remaining property; centerline bearing, ties to legal land corners from centerline stations with notation for corner witness by a registered land surveyor; existing utility locations and easements, including replacement utility easements; horizontal curvature information; and proper right of way symbolization for new right of way (access control) and easements, including areas which may be required to accommodate temporary erosion control.
 - v. Township, Range, Section and/or U.S. Survey information broken down to ¼ ¼ section line level on each plan sheet near the title block or appropriate survey/section line.
- (C) The CONSULTANT shall provide an updated construction estimate for the Right of Way design stage.

- (D) The COMMISSION shall review, approve and certify the right of way plans as completed by the CONSULTANT. The CONSULTANT shall provide one (1) electronic set of fully signed and sealed right of way plans, for the COMMISSION'S use.
- (E) The COMMISSION will prepare right of way appraisals and secure the necessary right of way by negotiation or condemnation, if necessary, for construction of this project.
- (F) The COMMISSION shall be responsible for staking and re-staking tentative right of way on individual properties, during right of way negotiation and acquisition phase of the project. The COMMISSION shall also set permanent monuments as shown on the recordable land survey.
- (G) The CONSULTANT shall be responsible for making all revisions to the right of way and construction plans due to negotiations with the property owners in an effort to acquire right of way.
- (H) The COMMISSION shall write legal/deed descriptions for all right of way acquisitions on MoDOT's approved Exhibit A form and submit to CONSULTANT for signature and seal.
- (I) The CONSULTANT will provide the COMMISSION with information for proper environmental and cultural clearance including submittal of the Right of Way stage RES. Items that may need to be addressed include historical buildings, archaeological sites, historic bridges, conversion of farmland, endangered species, wetlands, parklands and historical sites, 401 permit and floodplain development permit.

XII Final Roadway Design

- (A) The CONSULTANT shall coordinate with the COMMISSION any utility company activities for adjustments required to be included in the final design plans.
- (B) The COMMISSION will secure execution of municipal agreements with the cities and/or county agreements. A copy of the executed agreements will be furnished to the CONSULTANT for information. The CONSULTANT shall conform to all design provisions of these agreements.
- (C) A final design field check shall be held with CONSULTANT and COMMISSION representatives prior to completing final design plan quantities. The CONSULTANT shall make any necessary revisions to the final plans as determined by this design field check.
- (D) The CONSULTANT shall prepare detailed temporary erosion control plans for review and approval before inclusion in the final design plans.
- (E) The CONSULTANT shall prepare computations for all design plan quantities. All plan

quantities shall be shown on the Quantity Sheets, by construction stage, if applicable. The format for these sheets shall be furnished by the COMMISSION. Specialty items may have separate sheets for quantity tabulations.

(F) The CONSULTANT shall prepare for review and approval by the COMMISSION all General Job Special Provisions, which are to supersede the Missouri Standard Specification for Highway Construction. A brief reason for the deviation from the standard plans and specifications should also be provided. The CONSULTANT shall prepare only Job Special Provisions related to design elements shown in the plans.

(G) The following list shall be considered the minimum requirements for a complete set of Final Design Plans.

- a. Title Sheet
- b. Typical Sections
- c. Quantity Sheets
- d. Plan Sheets at 1"=50' horizontal (or different scale as determined by MoDOT Project Manager for clarity). Plan sheets shall include all necessary adjustments to signing and proposed pavement marking.
- e. Profile Sheets at 1"=50' horizontal and 1"=10' vertical
- f. Culvert Sections at 1"=10', if needed
- g. Special Sheets for geometrics, referenced points, grading plan, traffic control plan, temporary erosion control plan and any other sheets for special design features.
- h. Earthwork Quantities, Cross Sections at 100' intervals, 1"=10' (1:100), horizontal and vertical, including entrance sections with existing and proposed grades
- i. Tabulation of Quantity Sheets
- j. Job Special Provisions in electronic format readable in COMMISSION'S current word processor
- k. File with the bid items and quantities as generated by COMMISSION'S Estimate Program
- l. AASHTOWare upload of the estimate
- m. Construction Workday Study
- n. Transportation Management Plan
- o. Final Plans Checklist Form D-12

(H) Additional plans and information may be required to complete the Final Design Plans. With the submittal of the Final Design the CONSULTANT shall also provide the COMMISSION a statement that an internal quality control check has been conducted and to the best of the CONSULTANT'S knowledge the final design plans are free of gross errors, misleading or confusing typos, and includes adequate information to construct the project.

(I) The CONSULTANT shall prepare all plans through the use of a Computer Aided Drafting (CAD) program. The CONSULTANT shall conform to MoDOT's Specifications for

Computer Deliverable Contract Plans as referenced in the MoDOT EPG. The CONSULTANT shall use Bentley OpenRoads Designer.

- (J) The CONSULTANT shall furnish the COMMISSION the following completed sheets and documents, as applicable, for each separate construction project included in this contract, as follows:
- a. Final Plans showing profile grades, geometric data, alignment data, etc.
 - b. One (1) electronic copy of the location sketch for Commission Approval submitted in electronic format.
 - c. Draft copy of the job special provisions related to design elements for review. After corrections, the job special provisions shall be furnished in electronic format utilizing the COMMISSION'S latest word processing program.
 - d. One (1) legible electronic copy of engineering calculations and analysis.
 - e. One (1) electronic copy of a complete summary of quantities and estimate of construction costs. The estimate shall be prepared using the latest version of MoDOT's ESTIMATE program.
 - f. One (1) electronic copy of a workday study showing the estimated number of workdays required to construct each project.
 - g. The CONSULTANT shall provide a 3D model of the project exported from Bentley OpenRoads Designer software for the COMMISSION'S use.

XIII Construction Support

- (A) The CONSULTANT shall be available to the COMMISSION to discuss and interpret plans and specifications during the bidding and construction phase of the project as determined necessary by the Engineer.
- (B) The CONSULTANT may be required to attend a pre-construction meeting, and a post construction meeting.
- (C) If issues arise during construction, there will be a direct line of communication established between the MoDOT Construction Office and the CONSULTANT. The CONSULTANT will immediately inform the MoDOT Design Division of any recommendations or clarifications made to the Construction Office.

XIV Environmental Services – Historic Preservation

The CONSULTANT shall provide all necessary Historic Preservation work including:

Deliverables

- Report on results of survey for SHPO/consulting parties

- Research Design describing the APE, proposed field methods, collection strategy, and level of effort (e.g., estimated person-hours, estimated number of shovel tests, etc.) The Research Design should also include approximate start and end dates for the field survey.
- Draft and final reports on built environment and archaeological surveys. Reports should be delivered in digital format (i.e., PDF).
- New and Updated Site Forms for all sites identified or revisited (including sites that could not be field-verified)
- Recovered artifacts (if any) and archaeological field notes and lab forms (either originals or copies) shall be submitted to MoDOT HP upon acceptance of the final report
- Digital files used to generate and support the final reports including GIS shapefiles, artifact analysis spreadsheets, digital photographs, and scanned field notes.
- If appropriate, a Phase II testing plan for sites recommended for additional work
- Consultation Information
 - Effects assessment for SHPO/consulting parties
 - Adequate mapping for consultation purposes (APE, Project Study Area, Historic Properties, Effects)—presented in a logical and reasonable manner
 - Complete descriptions of historic properties for Council notification/invitation (suitable for cut/paste)
- Properties Denied Access Information
 - Document parcels where landowner permission to survey was denied on a map and in a table
 - In the table include an evaluation on the potential for historic properties based upon background research and survey results on other parcels (i.e., low, moderate or high)
- Section 106 Compliance Documentation File. This is an Adobe document labeled County_Route_Job#_Section106_Compliance_Doc". Set "bookmarks" in the Adobe file for the sections listed below.
 - SHPO Letter
 - MoDOT Cover Letter
 - Section 106 Submittal
 - FHWA Tribal Notification email and the attachment
 - Tribal responses
 - Non-tribal consulting party notifications and the attachment
 - Non-tribal responses
 - Agendas, sign-in sheets and minutes from any consultation meetings
 - Agreement Document (MOA/PA), if there is one, with the Information to Accompany (ITA)

- Any pertinent consultation material and correspondence not captured in the Agreement Document's ITA (e.g., ACHP notification of adverse effect and their response, pertinent e-mails, etc.)

Consultation Milestones (NEPA/Section 106):

- Purpose and Need (APE and Survey Methods)
- Public meeting (if there is one at this point consult public about project effects, potential mitigation measures)
- Results of the Survey (Effect assessments on architecture, results of the archaeological survey, development of mitigation measures, if necessary)
- Draft Agreement Document, if necessary; consult with public about mitigation measures
- Draft Section 4(f) Evaluation if necessary
- CE/CE2 Approval (Executed Agreement Document) [also Final Section 4(f) Evaluation if necessary]

Tasks

The results of the built environment (e.g., buildings, bridges, etc.) and archaeological investigations can be presented in single or separate reports. It is recommended that the cultural resources consultant meet with the MoDOT Historic Preservation (HP) staff at the outset of the study to set expectations and discuss issues (e.g., project schedule, notification of potential Section 4(f) issues, current version of built environment methods, consultation and who is responsible for conducting it, etc.). If an agreement document is required (e.g., Memorandum of Agreement or Programmatic Agreement), the consultant shall develop one document to address all adversely affected historic properties using the appropriate MoDOT template.

- 1) Consult with MoDOT HP to establish the area of potential effects (APE) for the archaeological and architectural surveys. MoDOT HP approval on the APE must be provided before any of the following steps are initiated.
- 2) Develop a concise historic context early during the project to guide the investigations to identify and evaluate historic properties, or explain their absence, in the study area. The context shall:
 - a) Synthesize information from all related disciplines, including history, architectural history, bridge history, and archaeology.
 - b) Include a review of archival sources and a summary of existing archaeological, architectural, and bridge records.
 - c) Identify types and likelihood of cultural resources.
- 3) Pre-Survey Work
 - a) Submit a written Research Design to MoDOT HP, which will need to be approved before fieldwork is started
 - b) Verify that MoDOT HP has drafted a Tribal Notification and that Federal Highway Administration has submitted to interested Tribes.
 - c) Work with MoDOT to identify consulting parties and prepare notification for MoDOT to send.
 - d) Develop a draft consultation plan. Consultation will continue throughout the project and will be driven by the type/number of historic properties and potential effects upon them.
- 4) The architectural survey will follow the MoDOT Built Environment Resources Methods and will identify and document all architectural resources (i.e., buildings, structures, objects, sites, and districts/landscapes) that are forty or more years of age located within the APE.
 - a) Review and summarize the existing architectural records for the study area.
 - b) Record the location of cemeteries identified during the architectural investigations.

- c) Develop Evaluations of Eligibility (EOEs) for all architectural resources forty or more years of age recommended as eligible for the National Register of Historic Places (NRHP) within the APE of each reasonable alternative for the Draft Environmental Document. The characteristics that make the property eligible should be identified to help make effect determinations. An EOE will be based on the evaluation of a resource's significance by the cultural resource consultant and MoDOT staff. The EOE shall include:
 - i) NRHP criteria
 - ii) Area(s) of significance
 - iii) Period(s) of significance
 - iv) Recommended NRHP boundary
 - v) Contributing and non-contributing resources within the boundary
 - vi) An evaluation of all elements within the setting
 - d) Determine the effect of the project (as defined by 36 CFR 800.5), if any, on the NRHP eligible property or properties, and the nature of the effect.
- 5) The historic bridge survey will follow the MoDOT Built Environment Resources Methods and will identify and document all bridge resources (i.e., highway, railroad and pedestrian bridges, viaducts and culverts, excluding metal, plastic and reinforced concrete pipes) located within the APE
- a) Contact MoDOT's Architectural Historian at the beginning of the investigation as a large amount of data on bridge resources is already available, including potential NRHP eligibility. A shape file of the project area should be provided to MoDOT so that all bridges within the study area can be identified. Work with MoDOT HP staff to determine if the Interstate Exemption, Program Comment for Post-1945 Concrete and Steel Bridges or if statewide or thematic Programmatic Agreements apply to bridges in the APE.
 - b) Work with MoDOT staff to develop EOE's for all bridge resources within the APE.
 - c) Determine the effect of the project (as defined by 36 CFR 800.5), if any, on the NRHP eligible bridge resources.
- 6) The consultant will complete the archaeological investigation within the APE to identify prehistoric and historic sites. For archaeology, this current scope of services covers only consultant services through the Phase I survey and the subsequent Phase I survey report.
- a) Record location of cemeteries identified during the archaeological investigations.
 - b) Prepare and submit new and updated site forms to MoDOT HP
 - c) Consult with MoDOT's Archaeologist following the completion of the survey on preliminary NRHP evaluations for each identified archaeological site.

- d) For sites determined eligible for the NRHP, either previously or as a result of the current Phase I survey, establish the effect of the project (as defined by 36 CFR 800.5), if any, and the nature of the effect.
 - e) Draft a proposed Phase II testing plan (i.e., why the site may be NRHP eligible and the methods to test it) for those sites in the APE that are determined to be potentially NRHP eligible.
 - f) Artifacts (prepared for curation), field notes and photographs, and digital data (e.g., databases, GIS shapefiles) shall be provided to MoDOT HP once SHPO concurs with the findings of the investigations
- 7) The results of the built environment (e.g., buildings, bridges, etc.) and archaeological investigations including effects on resources eligible for listing on the NRHP, can be presented in single or separate reports. An example of a MoDOT survey report is available. Anticipate two rounds of revisions to the report(s). The consultant is responsible for preparing State Historic Preservation Office (SHPO) Cultural Resources Investigation Report Form (CRIF) and Review and Compliance Information Form (RCIF) for MoDOT to include in the SHPO submittal. MoDOT will forward an acceptable Phase I report to the Missouri SHPO for their concurrence with the recommendations. If MoDOT and the consultant cannot agree upon NRHP eligibility recommendations and/or project effects on historic properties, the report will be submitted with the consultant's recommendations, while MoDOT will present its own recommendations in a cover letter
- 8) Agreement Document
- a) If an agreement document is required (e.g., Memorandum of Agreement or Programmatic Agreement), one document will be drafted to address all adversely affected historic properties.
 - b) Consult with MoDOT HP and SHPO to identify additional consulting parties. Consultation will continue throughout the project and will be driven by the type/number of historic properties and potential effects upon them.
 - c) Develop a draft consultation plan.
 - d) Coordinate with MoDOT HP staff to setup a meeting with the SHPO and consulting parties to establish mitigation measures for adversely affected historic properties.
 - e) Prepare a draft MOA/PA covering those historic properties affected by the project using the appropriate MoDOT template agreement.
 - f) A final MOA/PA covering those historic properties affected by the preferred alternative is required for the CE/CE2.
- 9) Section 4(f) Evaluation
- a) Prepare a Bridge Programmatic Section 4(f) Evaluation if bridges are the only Section 4(f) resources.

- b) If other Section 4(f) resources are present prepare a Section 4(f) Evaluation, with an executed MOA/PA, covering those resources. An individual Section 4(f) evaluation must address all Section 4(f) resources, including parks, recreation areas and wildlife or waterfowl refuges, and *de minimis* uses.

XV Services Provided by the Commission

A. The CONSULTANT shall be responsible for completing all roadway design work for this project, except for the following items to be provided by the COMMISSION:

- 1) "As-built" plans for prior State highway improvements within the project limits.
- 2) Pavement and shoulder design – thickness and type.
- 3) Electronic copies of all necessary special sheets and standard format sheets will be provided in DGN format. MoDOT standard plans, Missouri Standard Specifications for Highway Construction, standardized job special provisions, and Engineering Policy Guide (EPG) are available at <http://www.modot.org/business>.
- 4) Seeding and fertilizing application rates.
- 5) Contract completion date.

B. The CONSULTANT shall proceed with final design and preparation of detailed plans in accordance with the data approved or furnished by the COMMISSION which will meet with the general standards adopted by AASHTO and approved by the Department of Transportation as provided by Title 23, United States Code, Section 109(b).

DRAFT SCHEDULE AND PERIOD OF SERVICE

The Consultant shall make submittals in accordance with the schedule described below.

SE0131 and SE0132

Consultant Notice to Proceed – March 2025

Traffic Safety and Operational Analysis with Alternatives and Estimates by August 15, 2025

Preferred Alternative Selected and Conceptual Stage Request for Env. Services by September 15, 2025

Preliminary Stage Request for Environmental Services by November 1, 2025

Preliminary Plans by November 15, 2025

Public Meeting Exhibits by December 1, 2025

Public Meeting – December 2025

Right of Way Stage Request for Environmental Services by December 15, 2025

Right of Way Plans Approval by January 1, 2026

Final Stage Request for Environmental Services by August 1, 2026

100% Review Plans by September 15, 2026

Construction Support as needed post award

Final Signed and Sealed Roadway Plans, Job Special Provisions, Final Construction Estimate, Working Day Study, D-12 Form and remaining PS&E documents November 1, 2026 for letting in January 2027.

SE0131 AND SE0132 PERIOD OF SERVICE – The total period of service, including construction services, is expected to be completed by November 1, 2028.

SE0133

Consultant Notice to Proceed – March 2025

Preliminary Stage Request for Environmental Services by June 15, 2025

Preliminary Plans by July 1, 2025

Final Stage Request for Environmental Services by October 15, 2025

100% Review Plans by November 1, 2025

Construction Support as needed post award

Final Signed and Sealed Roadway Plans, Job Special Provisions, Final Construction Estimate, Working Day Study, D-12 Form and remaining PS&E documents December 15, 2025 for letting in March 2026.

PERIOD OF SERVICE – The total period of service, including construction support services, is expected to be completed by November 1, 2027.

SIGNAL COUNT	SIGNAL ID #	CITY	MAIN ROUTE	CROSS STREET	PED Buttons
1	1732	Cape Girardeau	Rt. K	St. Francis	2
2	4713	Cape Girardeau	MO 74	Fountain	4
3	2178	Cape Girardeau	MO 74	Silver Springs	4
4	1733	Cape Girardeau	Rt. K	Silver Springs	6
5	4304	Cape Girardeau	Rt. K	Broadview	6
6	3429	Cape Girardeau	MO 74	Mt. Auburn	6
7	1704	Cape Girardeau	MO 74	West End Blvd.	8
8	1705	Cape Girardeau	MO 74	Sprigg Street	8
9	4864	Cape Girardeau	MO 74	US 61	8
10	4633	Farmington	MO 32	Rt. D (Karsch)	2
11	4635	Farmington	MO 32	Maple Valley	4
12	1287	Houston	US 63	RTE 17 NORTH	2
13	1280	Jackson	US 61	MO 34/ MO 25	2
14	5993	Jackson	Rt. D	Farmington	2
15	13425	Jackson	MO 25	School Ln	2
16	4868	Kennett	US 412	MO.25 (McDonalds)	2
17	4836	Kennett	MO 84	Floyd (Hardees)	2
18	4867	Kennett	US 412	Mo 84 (Wal-Mart)	4
19	1300	Mountain Grove	MO 95	BU 60	8
20	2176	Poplar Bluff	Bus 67	Katy Ln.	2
21	11305	Poplar Bluff	Bus 67	Crestwood	2
22	15495	Poplar Bluff	Rte. PP	Shelby Rd.	2
23	5123	Poplar Bluff	Bus 67	Cherry St. (Wal-Mart)	4
24	14765	Poplar Bluff	Oak Grove	School Ramp 2 & 4	4
25	1764	Poplar Bluff	Bus 67	MO 53	6
26	4831	Poplar Bluff	MO 53	MO 142	6
27	0930	Poplar Bluff	Bus. 60	2nd St. (court house)	8
28	0929	Poplar Bluff	Bus. 60	5th St.	8
29	0937	Poplar Bluff	Bus 67	K-Mart	8
30	13435	Poplar Bluff	Bus 67	Rt W	8
31	4849	Sikeston	MO 114	Kingshighway	8
32	1297	West Plains	BU 63	RTE CC/ MO AVE/gibson	2
33	3793	West Plains	US 63	US 160/ PREACHER RO	2
34	3801	West Plains	US 160	SOUTHERN HILL CTR	4
35	3800	West Plains	US 160	WORLEY DR	4
36		Perryville	MO 51	Rt T/ St Joseph St	4
37	4634	Farmington	MO 32	Weber	4
38	0956	Sikeston	MO 114	New Madrid	6
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