**Application:** This template is used when the Certified LPA owns the contract on a federal funded project.

**Version Date: 12/10/2020**

**[INSTRUCTIONS]:**

* Yellow highlighted areas include instructions that should be deleted prior to release.
* Blue highlighted areas indicate text or fields that need information provided or revised.
* “Agency” means the Certified LPA as defined in the CLPA Contract.
* Delete any items marked as “[Optional]” if they are not applicable to the Project.

**Delete instructions throughout the document before executing Contract or amendment. Deletions can be automated as follows:**

* From the “Edit” menu select “Replace”;
* With cursor in the “Find what” field, click “More” button, then “Format” then “Font” , then in the font field select “ Times New Roman” text ;
* Leave the “Replace with” field blank;
* Click “Replace All”. This will delete all yellow highlighted text.

**Not all subtasks are needed for each project.  If an entire subtask is not needed, leave the subtask number, add “RESERVED” after the subtask title, and delete all subtask text.**

**Add estimated plan sheet deliverables for each subtask in Task 15 if part of a full service Contract.**

**TASK 8 TRAFFIC ENGINEERING & MANAGEMENT**

Consultant shall provide traffic analysis and design Services under this SOW for delivery of Tasks and Deliverables according to the agreed upon delivery schedule.

**8.1 Traffic Analysis**

Consultant shall prepare a traffic analysis to determine design elements within Project limits including the following:

* Signalization needs (signal warrant and capacity analysis)
* Lane configurations
* Turn lane lengths
* Traffic signal phasing
* Other

Consultant shall collect the following traffic data:

* One 24-hour vehicle count (including vehicle classifications and speed) along XX Street
* AM and PM turn movement counts at XX Street/XX Avenue
* Crash data from YEAR to YEAR
* 85th Percentile Travel Speeds
* Other

Consultant shall conduct AM and PM peak traffic analysis for both existing conditions and future conditions approximately 20 years in the future at the following locations:

* XX Street Name
* XX Avenue Name

Future traffic volumes must be based on a current Transportation System Plan (“TSP”) for Agency or a regional travel demand model when either of those exist. Consultant shall determine future volume estimates as follows: [Method for determining future volume estimates must be agreed upon with Agency and/or ODOT (if impacting an ODOT facility) during development of this SOW. Insert method agreed upon here.]

Capacity analysis must be based on current Highway Capacity Manual (“HCM”) methodology. Left turn signal phasing must be determined based on ODOT Signal Policy and Guidelines. [Include this sentence if on ODOT facilities] Consultant shall use the results of analysis to support necessary signal approval requests on ODOT facilities.

**8.1 Consultant Deliverables and Schedule**

Consultant shall provide:

* Draft Traffic Analysis Technical Memorandum documenting the results of the traffic analysis to APM before design starts and within xx weeks of NTP; electronically in MS Word PDF format.
* Final Traffic Analysis Technical Memorandum to APM within two weeks of receiving comments from the Agency and ODOT; electronically in MS Word PDF.

**8.2 Traffic Signal Design**

Consultant shall prepare plans, specifications and construction cost estimate (“PS&E”) for the construction of traffic signals at the following locations along the alignment: [list locations and whether new or modified]

* + Main/Broadway

[If this sentence is not needed, delete.] Consultant shall prepare temporary signal plans and specifications at xx [add locations or number of temporary signals] to accommodate traffic during construction of the new traffic signals.

All traffic signal plans and specifications must conform to Manual on Uniform Traffic Control Devices (“MUTCD”), ODOT, For ODOT signals; call out specific ODOT Standards:

ODOT Traffic Manual

 ODOT Traffic Signal Policy & Guidelines

 ODOT Traffic Signal Design Manual

ODOT Traffic Signal Drafting Manual

Agency and National Electric Code (“NEC”) standards as applicable. Consultant shall coordinate with the utility for service connections.

Plans and specifications shall include locating pedestrian push buttons to meet current MUTCD and ADA standards, in accordance with the ODOT Signal Design Manual, Agency xxx standards, the ODOT Signal Policy and Guidelines, and applicable ODOT standard drawings.

[If traffic signals are being removed, installed or modified on an ODOT facility, include the following:] Consultant shall work with Region Traffic to prepare Traffic Signal Approval Request Form.

**8.2 Consultant Deliverables and Schedule**

Consultant shall provide:

* Traffic Signal Approval Request included in Project Initiation (or ## Weeks before DAP).
* 30% Traffic Signal plans and cost estimate included in DAP (Task 13)
* Preliminary Traffic Signal plans, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance Traffic Signal plans, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final Traffic Signal plans, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)

**8.3 Traffic Signal Interconnect**

Consultant shall prepare PS&E for the construction of new fiber optic/copper/wireless [choose one] traffic signal interconnect at the following locations along the alignment: [list locations or extents]

* + Main Street between First and Second

The traffic signal interconnect plans and specifications shall conform to MUTCD, ODOT, Agency and NEC standards as applicable.

**8.3 Consultant Deliverables and Schedule**

Consultant shall provide:

* Traffic Signal Interconnect narrative and cost estimate included in DAP (Task 13)
* Preliminary Traffic Signal Interconnect plans, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance Traffic Signal Interconnect plans, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final Traffic Signal Interconnect plans, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)

**8.4 Permanent Signing**

Consultant shall prepare plans, specifications, and construction cost estimates for the permanent signing associated with the proposed improvements. The design must be completed in accordance with applicable MUTCD, ODOT, and Agency standards.

**8.4 Consultant Deliverables and Schedule**

Consultant shall provide:

* 30% Permanent Signing plans and cost estimate included in DAP (Task 13)
* Preliminary Permanent Signing plans, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance Permanent Signing plans, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final Permanent Signing plans, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)

**8.5 Permanent Pavement Markings**

Consultant shall prepare plans, specifications, and construction cost estimates for the permanent pavement markings associated with the proposed improvements. The design must be completed in accordance with applicable MUTCD, ODOT, and Agency standards.

**8.5 Consultant Deliverables and Schedule**

 Consultant shall provide:

* 30% Permanent Pavement Marking plans and cost estimate included in DAP (Task 13)
* Preliminary Permanent Pavement Marking plans, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance Permanent Pavement Marking plans, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final Permanent Pavement Marking plans, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)

**8.6 Illumination Design**

Consultant shall prepare plans, specifications, and construction cost estimates for the construction of an illumination system at XX [include extents of lighting system]. Consultant shall conduct lighting analysis to determine appropriate light pole layout (pole spacing, mounting heights, and wattages) to meet current Illumination Engineering Society (“IES”) or Agency standards for light levels. [If additional circuitry is needed for duplex outlets or holiday lighting, include here.] Roadway lighting plans and specifications shall conform to the NEC, ODOT, and Agency standards as applicable. Consultant shall coordinate with utility for service connections.

**8.6 Consultant Deliverables and Schedule**

Consultant shall provide:

* Technical Memorandum and narrative [choose one or both] summarizing the results of lighting analysis included in DAP (Task 13)
* 30% Illumination plans and cost estimate included in DAP (Task 13)
* Preliminary Illumination plans, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance Illumination plans, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final Illumination plans, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)

**8.7 Traffic Management Plan**

[Use if full TMP is needed. If not needed, delete task and mark Task name as RESERVED]

Consultant shall prepare a draft Project-level Traffic Management Plan (“TMP”) per the requirements of the ODOT TMP Guidance Document located on the ODOT web page. The TMP must include such elements as: work zone traffic analysis, construction staging, work zone restrictions, detours, mobility issues, mitigation measures, public involvement program. Where road closures and detours are anticipated, Consultant shall, in coordination with Agency, ODOT and other stakeholders, build consensus for a recommended detour route. Anticipated speed zone reductions must be identified in the TMP. Consultant shall/Agency will provide lane closure charts or supporting traffic analysis showing recommended lane closure restrictions for Project area roadways. Consultant shall prepare a Work Zone Decision Tree and provide to APM for review.

Consultant shall coordinate with ODOT’s Region Mobility Liaison for any temporary impacts on ODOT facilities. Consultant shall prepare Project Mobility Consideration checklist and provide to APM for review.

**8.7 Consultant Deliverables and Schedule**

Consultant shall provide:

* Draft TMP, Work Zone Decision Tree and Project Mobility Consideration checklist submitted as part of Task 13 deliverables
* Final TMP, Work Zone Decision Tree, and Project Mobility Consideration checklist submitted as part of Task 15 deliverables

**8.8 Traffic Control Plans (“TCPs”)**

[If Task 8.7 is deleted include work zone traffic analysis in this task if needed]

Consultant shall prepare and submit PS&E for temporary traffic control to accommodate the public during construction. Consultant shall develop plans and specifications to accommodate vehicle, bicycle and pedestrian traffic during construction. ODOT or Agency standard plans must be referenced where possible.

Consultant’s TCPs must indicate such elements as traffic control sequencing, work zone limits, transitions, traffic control devices, signage, detours and staging cross sections (where applicable), and work zone details for vehicles, bicycles and pedestrians.

Consultant shall prepare a Temporary Pedestrian Accessible Route Plan (“TPARP”) as part of the TCPs. The TPARP must include a pedestrian route through or around each work area that is equal to or better than the route that was there before construction.

TCPs must meet MUTCD, ODOT, and Agency requirements.

**8.8 Consultant Deliverables and Schedule**

Consultant shall provide:

* 30% TCPs and cost estimate included in DAP (Task 13)
* Preliminary TCPs, special provisions, and cost estimate included in Preliminary PS&E submittal (Task 15.1)
* Advance TCPs, special provisions, and cost estimate included in Advance PS&E submittal (Task 15.2)
* Final TCPs, special provisions, and cost estimate included in Final PS&E Package submittal (Task 15.3)