CONTRACT FOR ENGINEERING SERVICES

SCOPE OF SERVICES DISCUSSION ITEMS

May 31, 2016

**General:** In any agreement for design engineering there needs to be a clear understanding of the responsibilities of each party to the agreement. The county counselor can review the legal terms of the contract, however it is usually the responsibility of the road supervisor or county engineer to work with the consultant to develop a scope of services that accurately itemizes the work expected of the consultant. There are a number of items that can be performed by the Consultant or the County depending on the wishes, expertise and availability of county staff. Inclusion of these items in the agreement will increase the cost of the design services. This document includes items that are most often overlooked or misunderstood during contract negotiations. The Consultant should discuss these items with the County prior to preparing an agreement to avoid misunderstandings as the project develops.

**Checklist:** The county department director should determine which items of design services apply to the project.

 Yes No N/A

1. [ ]  [ ]  [ ]  Project Description
2. [ ]  [ ]  [ ]  Federal aid project
3. [ ]  [ ]  [ ]  Design Criteria
4. [ ]  [ ]  [ ]  Load Ratings
5. [ ]  [ ]  [ ]  Scour Vulnerability Analysis
6. [ ]  [ ]  [ ]  Design survey
7. [ ]  [ ]  [ ]  Survey control
8. [ ]  [ ]  [ ]  Property ownership data and road records
9. [ ]  [ ]  [ ]  Right-of-way strip map and plats
10. [ ]  [ ]  [ ]  Right-of-way descriptions
11. [ ]  [ ]  [ ]  Right-of-way staking
12. [ ]  [ ]  [ ]  Geology
13. [ ]  [ ]  [ ]  Environmental permitting
14. [ ]  [ ]  [ ]  Utilities
15. [ ]  [ ]  [ ]  Ownership of documents
16. [ ]  [ ]  [ ]  Pre-Design Report
17. [ ]  [ ]  [ ]  Presentation to county commission
18. [ ]  [ ]  [ ]  Railroad coordination
19. [ ]  [ ]  [ ]  Pre-bid and bidding Services
20. [ ]  [ ]  [ ]  Construction traffic control
21. [ ]  [ ]  [ ]  Shop drawing review and construction changes
22. [ ]  [ ]  [ ]  Construction observation
23. **Project Description:** The project description should accurately describe the location of the project and the nature of the proposed improvements. If the project will be a federal aid project a statement similar to the following should be included in the project description:

The County has submitted an official request to the Kansas Secretary of Transportation, hereinafter referred to as the “Secretary” stating that it desires federal participation in the construction cost of the project.

1. **Federal Aid Projects**: If the proposed project will be a federal aid project coordinated through and let by KDOT the following items should be included in the Scope of Services:
	1. Prepare detailed design plans and construction drawings in conformity with the state and federal design criteria appropriate for the Project, in accordance with the current Project Development Manual for Non National Highway System Local Government Road and Street Projects, Vo. 1, the Bureau of Local Projects Memorandums (BLP Memos), the KDOT Design Manual, the Bureau of Design Road Memorandums, the current version of the KDOT Standard Specifications for State Road and Bridge Construction with Special Provisions and Project Special Provisions, and with the rules and regulations of the Federal Highway Administration pertaining thereto.
	2. Prepare revised design plans, as requested by representatives of the County or the Secretary, made necessary by field check and/or office check review recommendations, errors, omissions, or negligence of the Consultant, at any time prior to the completion and final acceptance of the construction contract(s) covering the Project.
	3. Prepare the design plans for the Project for such parts or sections, and in such order of completion, as designated by the County and in conformance with the Project’s current official schedule as issued by the Secretary. Further the Consultant agrees to complete design plan development stages no later than the due dates on the Project’s current official schedule as issued by the Secretary, exclusive of delays beyond the Consultant’s control.
	4. Field check the Project with representatives of the Secretary and the County.
	5. Complete the design plans incorporating changes which have been agreed to during the field check, and include with such design plans estimates of quantities, special provisions, supplemental specifications and an updated estimate of cost.
	6. Submit one complete set of design plans to the Secretary for office check review along with copies of special provisions, supplemental specifications and the updated cost estimate. A similar set of prints and copies will be furnished to the County.
	7. Prepare final design plan tracings on a medium designated by the Secretary, an updated cost estimate based on final design plan quantities, and necessary special provisions and necessary supplemental specifications.
	8. Submit one set of prints of the final design plan tracings and copies of the updated construction cost estimate, special provisions, and supplemental specifications to the County and one set of prints and copies of same to the Secretary.
	9. Furnish the reproducible final design plan tracings to the Secretary. Upon request furnish one copy of the design calculations to the Secretary.
	10. Furnish final and complete design plans to the County and the Secretary for final review no later than the due date in the Project’s current official schedule as issued by the Secretary, exclusive of time required for reviews by the reviewing parties and delays beyond the Consultant’s control.
	11. Prepare and furnish the Secretary with supplemental specifications covering special fabrication or construction features not covered by the KDOT Standard Specifications for State Road and Bridge Construction, except for items designed by others.
	12. Review shop drawings and falsework drawings, as may be required for the Project (This item is usually included on bridge projects.).
	13. Provide plans, drawings and documents pertaining to the Project to the County, prepared in accordance with the Secretary’s standard practice. The plans, drawings and documents shall become the property of the County upon the completion thereof in accordance with the terms of this Agreement, without restrictions as to their future use.
2. **Design Criteria**: The design criteria may affect the scope of the project, design cost, as well as construction cost, so this item should be discussed prior to executing an agreement. There is more flexibility on design criteria for locally funded projects. Criteria might include pavement design, design speed, bridge loading, clear zone and typical section.
3. **Bridge Inspection Related Items**: Certain bridge inspection related items can be furnished by the design engineer. These include load ratings and the scour vulnerability analysis.
4. **Design survey in Scope of Services**: Usually there is a provision in the scope of services that the consultant will perform the design survey.
5. **Survey Control**: There has been considerable confusion on survey control as it relates to the location of public land survey corners. If the consultant is located out of the county and there are local surveyors that the county uses for routine items it may be a good idea to have a local surveyor establish the survey control. The following paragraphs should be considered for inclusion in the scope of services:
	1. The Consultant will perform the necessary research and locate or establish all Public Lands Survey System corners within the proposed construction limits and as necessary to reference the project to section line and write legal descriptions for proposed right-of-way. The County will assist by excavating for necessary missing corners. **OR** The County, under separate contract or with county staff, will provide the Consultant with reference ties to all Public Lands Survey System corners within the proposed construction limits and as necessary to reference the project to section line and write legal descriptions for proposed right-of-way.
	2. The Consultant will file with the County and the Kansas State Historical Society corner reference reports for all public land survey corners used during the design survey, and show the corners and references on the design plans.
	3. The County **OR** Consultant will notify adjacent property owners prior to performing the survey. No vehicles should be driven onto private property without permission from the owner.
	4. If the adjacent property owners indicate, or survey plats are of record that indicate property markers may exist that may be damaged by construction, the Consultant will search for property markers and shall note any found markers on the plans.
6. **Property Ownership data and road records**: There are a number of options concerning which party is responsible for right-of-way research and ownership data. Consider adding the following items to the scope of services:
	1. The Consultant will research and obtain ownership data and legal descriptions for adjacent property owners. **OR** The County will provide ownership data and legal descriptions for adjacent property owners.
	2. The Consultant will obtain existing right-of-way data from road records, plans and deeds of dedication. **OR**  The County will provide existing right-of-way data to the Consultant.
	3. The Consultant will research and obtain easement documents for utilities in the project area. **OR** The County will research and provide easement documents for utilities in the project area.
7. **Right-of-way strip map and plats**: If the county desires a right-of-way strip map or other right-of-way related drawings it should be stated in the agreement. Consider adding the following items to the scope of services:
	1. The Consultant will provide a right-of-way strip map with required permanent and construction easements color coded.
	2. The Consultant will provide a plat drawing for each property showing existing and proposed easements with dimensions and bearings on 8.5" x 11" sheets.
8. **Right-of-way descriptions**: If the consultant will prepare the right-of-way descriptions consider adding the following paragraph to the scope of services:

After the County has approved the proposed right of way the consultant will prepare legal descriptions for permanent and temporary construction easements which may be required. Furnish legal descriptions on 8.5" x 11" sheet stamped by a Registered Land Surveyor, and electronically in Microsoft Word.

1. **Right-of-way staking**: If the consultant will stake the proposed right-of-way lines this item will need to be included in the agreement. Replacement of stakes may be necessary and this is usually extra work and paid for on an hourly basis. Consider adding the following paragraph if the consultant is expected to stake the proposed right-of-way:

When requested by the County the Consultant will stake the proposed permanent and temporary easements one time. If stakes are destroyed after the initial staking the County may request restaking, and the Consultant will be reimbursed on an hourly basis.

1. **Geology**: Core drilling is required on bridge projects and may be required on grading projects. In most cases the scope of geologic investigation is not known at the time the agreement is executed so it is difficult for the consultant to include the cost in the fee estimate. The usual procedure is include in the agreement that the consultant will determine the required geologic information needed during the design phase and how the geologic contractor will be selected and reimbursed. Consider adding one of the following paragraphs to the scope of services:
	1. After field check the Consultant will determine the scope of geologic exploration required for design and obtain quotes from qualified firms and make a recommendation to the County. The county will select the geologic exploration company and pay for the work under separate contract. The consultant will coordinate with the geologic exploration company.
	2. After field check the Consultant will identify geologic information needed for the design. The County will select the geologic exploration firm and the County will pay the geologic firm directly. The consultant will coordinate with the geologic exploration company.
	3. The consultant will perform or subcontract geologic exploration required for final design, and the cost thereof is included in the lump sum fee.

If the project will be on a new alignment the geology cannot be performed until the county obtains permission to enter onto private property, sometimes it will be necessary for the county to clear brush and trees for access by drilling rigs. If this is the case a couple of sentences should be added to the scope of services to clarify this item.

1. **Environmental Permitting**: Responsibility for environmental permitting normally required of construction projects should be included in the agreement. The permits are normally in the name of the County, so it is necessary for the County to execute permits, however the consultant many times prepares the permits and transmits them to the County for signature. Consider adding one of the following items to the scope of services:
	1. The Consultant shall determine which environmental permits are required and prepare permit applications for the County’s execution. These permits may include Division of Water Resources stream obstruction, Corps of Engineers 404, Flood Plain Development Permit, Construction Stormwater NPDES, and any other State and Federal permits required to construct this project. If project is in a FEMA detailed study area, provide existing water surface profile calculations with and without flood plain filled and a "No-Rise" certificate for the FEMA 100-year flood. The County will pay any permitting fees to the regulatory agencies.
	2. The Consultant will advise the County on which environmental permits are required and shall provide to the County the necessary information for the County to prepare and submit the permit applications.
2. **Utilities**. Responsibility for utility location, notification, and relocation should be included in the agreement. Consider adding a new paragraph to the scope of services with the following sentences:
	1. Prior to the design survey the Consultant will contact utility companies and request flagging of utility locations to be shown on the plans. If utilities do not respond, the Consultant will show utility locations based the best information available. Consultant will document all contact with utility companies.
	2. When final grading plans are available Consultant **OR** County will submit one set of plans, without structural details, to each private and public utility company having facilities in the area of the project.
	3. Consultant **OR** County will coordinate the necessary adjustments with the utility companies.
3. **Ownership of Documents:** Rules of the Kansas State Board of Technical Professions require licensed professionals to maintain the ownership of drawings and specifications to prevent unauthorized reuse on other projects. However, drawings and specifications are public documents that are subject to Kansas Open Records Act, so some copying is allowed by state law. It is suggested that a paragraph similar to the following be included in the agreement:

The drawings and specifications will remain intellectual property of the Consultant, and shall not be used by the County on other projects without express written consent of the Consultant. Copying of the drawings and specifications are allowed for internal use within the County and to comply with Kansas Open Records Act.

1. **Pre-Design Report Option:** On some projects the scope, project limits, and alternatives cannot be determined until after the field survey. Some counties would like alternatives examined when good field information is available. Usually the best time for a pre-design report is after the field survey, and prior to preparation of field check plans. If a pre-design report is desired consider adding a paragraph to the agreement similar to the following:

After completion of the field survey and prior to preparation of field check plans, the consultant shall prepare a pre-design report that examines the alternatives for the proposed improvements including preliminary cost estimates. Submit two (2) copies of the report to the County. The report should examine:

* 1. Summarize the design criteria alternatives.
	2. Alternative structure types
	3. Alternative horizontal and vertical alignments.
1. **Presentations to County Commission and the Public:** Meetings involve preparation as well as travel time and can cost hundreds if not thousands of dollars. If it is anticipated that the consultant will need to attend county commission and public meetings those meetings should be listed in the scope of services. Consider adding a paragraph to the agreement similar to the following:

The consultant will attend one county commission meeting to present the findings of the Pre-Design Report and one public meeting. Arrangement for the public meeting will be made by the County. The Consultant shall prepare display boards and presentation material, and shall provide a short explanation of the project and answer questions.

1. **Railroad Coordination** – If a railroad is located within the project area a paragraph should be added explaining the consultants responsibilities related to coordination with the railroad. Consider adding a paragraph to the agreement similar to the following:

Throughout the project the Consultant shall maintain communication and coordinate with the railroad and provide any submittals necessary to secure their approval of the project and any permits required for construction prior to final plan submittal. Consultant is responsible for obtaining clearance, permits, insurance and/or flagging as required by the railroad before performing any activities on railroad right-of-way.

1. **Pre-Bid and Bidding Services:** In most counties the Consultant prepares the plans, specifications, bidding documents, and contract documents. After the project is advertised the Consultant will sell the bidding documents to prospective bidders, assist in the bid letting, tabulate the bids, and prepare the contract documents. The agreement should be reviewed so the responsibilities of each party are properly itemized. Typically bidding and contract documents are reviewed by the county counselor. The Consultant may prepare the advertisement for bid, but the County Clerk usually handles publishing the advertisement.
2. **Construction Traffic Control:** Bridges and most county road projects are closed to through traffic during construction. Some times the county may sign the detour, and some times this is the responsibility of the contractor. Adjacent landowners that live along the project or have fields with no other access still need some access during construction. Whatever method of traffic control is anticipated should be noted in the agreement so the consultant can estimate the fee needed to provide details in the plans and specifications.
3. **Shop Drawing Review and Construction Changes:** For certain type of construction, such as steel girder or pre-stress concrete bridges, it is normal procedure for the design engineer to review the shop drawings prepared by the supplier. Additionally, certain changes and questions arise during construction that can only be addressed by the designer. If the design contract also includes the construction observation then these construction items are itemized in the paragraph concerning construction observation. If the design engineer is not performing construction observation consider adding a paragraph to the agreement similar to the following:

As required by the County, the Consultant will review shop drawings, falsework plans and provide services resulting from significant changes in the general scope of the project or its accepted studies, reports or design documents, including preparation of change orders during the construction phase of the project. This work will be paid for on an hourly basis unless resulting from an error or omission by the Consultant.

1. **Construction Observation:** For federal aid projects the construction observation is usually handled separately with selection of the consultant performed in accordance with federal requirements. On county funded projects the construction observation can be included in the design contract.