

**EXHIBIT A**  
**SCOPE OF SERVICES**

**I. PROJECT LOCATION AND DESCRIPTION**

Provide professional services described as follows:

**23<sup>rd</sup> and Iowa Geometric Improvements**

**KDOT Project #KA-2611-01**

**City Project #PW1208**

**II. PRELIMINARY DESIGN PHASE (Concept Design and Field Check Plans)**

1. Meet with city staff to determine specific project needs and general project desires. Also, review and receive available information and plans. Project budget will be provided by city staff.
- ~~2. Conduct one public meeting to discuss the proposed improvements and to receive input and hear concerns from the neighborhood.~~
3. Perform design survey as required to prepare plan and profile sheets. All surveys of the Project must tie to two different section corners. The survey must have a linear closure of 1:15,000 as determined by the American Congress on Surveying and Mapping. All survey data must be provided to the City in digital format.
  - a) Consultant will attempt to perform a majority of the surveying services during night-time hours to avoid periods of heavy traffic. Consultant intends to provide advanced warning signs on 23<sup>rd</sup> Street and on Iowa Street for traffic control during the survey. If the City or KDOT requires additional traffic control measures to be implemented during the survey, we will review this topic with the appropriate people and depending on requirements, additional fees may be necessary.
4. Obtain information from utility companies who have facilities within the Project limits. Utility companies shall be required to locate their facilities within the Project limits. Include utility locations in survey data. Provide preliminary utility coordination. Line and depth are required for all underground utilities.
5. Obtain ownership and easement (O & E) certificates on the properties that abut the Project site. Copies of all ownership maps and recorded plats will be obtained from the Douglas County courthouse.

6. Provide traffic engineering analysis, if needed, to determine design traffic volumes, vehicle classifications, accident experience, speed data, and recommended signal timing and phasing. Determine and lay out the lane configurations and geometrics that would be required to serve the design traffic volumes along the route.
7. Provide services of a soil Consultant to determine the adequacy of subgrade and pavement condition. Complete a pavement evaluation and a determination of pavement improvement needs. Make recommendations, in writing, on pavement cross-section for the Project.
8. Review alternative design concepts with the City prior to progressing to the detail aspects of the Project. Alternative concepts shall be discussed to determine the best horizontal and vertical alignments for the Project. City's concurrence in the selection of an alternate or preliminary concept will be contingent on the accuracy and completeness of the background information provided by the Consultant.
  - a) Alternative design concepts will be prepared for:
    - i. Roadway geometry at the 23<sup>rd</sup> and Iowa intersection.
    - ii. Access control options for the properties on the northeast quadrant of the intersection.
    - iii. Traffic signal phasing options and the required length of auxiliary lanes to accommodate the estimated queue lengths.
    - iv. Pavement sections.
    - v. Street Lighting.
    - vi. Aesthetic enhancements including median island, plantings,
    - vii. Traffic control and preliminary construction sequencing.
  - b) Attend two Concept Design Review meetings with City prior to preparing the Field Check Plans. The concept design will be presented to City and review comments will be collected from City at the first meeting. The revised concept design will be presented to City for approval at the second meeting.
9. Design storm drainage systems in accordance with the current City Stormwater Management Criteria. Prepare a hydrologic and hydraulic analysis to establish recommendations concerning storm drainage design criteria. Include pipe/box sizes, alignments, grades, drainage easements, and associated Project design items. Perform watershed analysis and computer flow modeling using either HEC-1, TR-20, SWMM, FIEC-2, or FIY-7. Provide a written report of the results of this analysis and copies of the computer digital data.
- ~~10. Prepare a map showing the limits of the drainage basin for all sanitary sewer design. All sanitary sewer extensions shall conform to the wastewater collection system master plan. Include a complete analysis of all pump stations, including a~~

~~map showing the property sewered by this pump station. Provide a written report detailing conformance with the master plan, assumptions that were made, and the flows from each property to the pump station.~~

11. Prepare preliminary estimate of probable construction cost for the Project.
12. Prepare three sets of preliminary field check plans in sufficient detail for the City to review. Allow two weeks for the City to review preliminary field check plans. These documents shall include preliminary right-of-way, necessary easement acquisitions, drainage area map, and drainage design data. If Project is over budget, a determination of alternates is required. Contract may be terminated if additional funds are not available or project modifications cannot be made.
13. The following will be needed to develop the preliminary design:
  - a) Prepare the base drawing with a plan portion showing existing topography and contours and the profile to show grades. The base drawings shall be later used as full scale base drawings for right-of way and/or final design plans.
  - b) The preliminary design plans shall be prepared in accordance with the latest editions of the City of Lawrence Design Criteria for infrastructure improvements, A Policy on Geometric Design of Highways and Streets prepared by the American Association of State Highway and Transportation Officials (AASHTO), Design Manual, Volume 1 (Parts A & B) (KDOT), and the Manual on Uniform Traffic Control Devices prepared by the Federal Highway Administration (FHWA).
  - c) The plan view scale shall be 1 inch = 20 feet and extend at least 300 feet beyond the Project limits.
  - d) The profile view scale shall be 1 inch = 20 feet horizontal, and 1 inch = 5 feet vertical.
  - e) The preliminary design 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, and other critical design items.
  - f) Traffic assignments shall be shown on the respective roadways or on a line sketch of the roadways.
14. Upon City's approval of the preliminary field check design plans, the Consultant shall deliver the field check plans to KDOT and arrange a field check meeting with the City and KDOT to discuss design features in the Project area.

15. The Consultant shall be responsible for verification, furnishing, and recording of any legal land corners necessary for legal descriptions used in deed writing. The Consultant's personnel shall tie the approved corner into the center line.

### **III. FINAL DESIGN PHASE (Office Check, Final Check and PS&E Plans)**

1. After the field check meeting, design the improvements and prepare Office Check Plans and Special Provisions. Meet with city staff to review the Office Check Plans and Special Provisions prior to submitting the documents to KDOT.
2. After receiving City and KDOT comments regarding the Office Check Plans and Special Provisions, revise the documents and submit the revised documents as Final Check Plans and Special Provisions to City and KDOT for approval.
3. After receiving City and KDOT approval of the Final Check Plans and Special Provisions, prepare PS&E Plans and Special Provisions for submittal to KDOT for bidding purposes.
4. Conduct one public meeting to discuss the proposed improvements and their impacts on the adjacent properties with neighborhood.
5. Prepare a right-of-way strip map and furnish the City with the original and one print of the strip map. Also, furnish the City with 8 1/2" x 11" plats and legal descriptions of each property required for right-of-way or easement acquisition. ~~The Consultant agrees to complete these right-of-way or easement descriptions and drawings by \_\_\_\_\_.~~ ~~The Consultant shall be responsible for making revisions to the right-of-way and construction plans resulting from negotiations with the property owners.~~
6. Prepare all applications, exhibits, drawings, and specifications necessary to obtain all required permits. Applications should be prepared for the City's execution and submittal. Assist the City in obtaining permit approvals by furnishing additional information about the Project design. Provide, in the specifications, a list of the permits which must be obtained by the construction contractor.
7. The Consultant shall be responsible for preparing the required applications and obtaining approved permits for the National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities, U.S. Army Corps of Engineers 404 Permit, and/or the Kansas Department of Agriculture, Division of Water Resources permits.

- ~~8. Prepare final construction documents for improvements, incorporating all comments from the city staff. Submit final plans to the City for final review. Allow two weeks for City review.~~
9. The design plans shall include a detailed traffic control plan with an outline for construction staging conforming to the requirements of the Manual on Uniform Traffic Control Devices and the Policy. Procedure and Design Manual The traffic control plan requires submittal to the City for review and approval prior to inclusion in the final design plans.
10. Prepare detailed stormwater pollution prevention plans (SWP3) as required by City Code for inclusion in the final construction plans.
11. Prepare detailed traffic signal system plans and special provisions for inclusion in the final construction documents.
12. Prepare detailed street lighting plans and special provisions for inclusion in the final construction documents.
13. Prepare detailed landscaping plans and special provisions for inclusion in the final construction documents. Landscaping plans will include tabulations of plantings and aesthetic enhancements included as a part of the project as determined during the Preliminary Design Phase.
14. The Consultant shall prepare computations for all design plan quantities and bid items.
15. The consultant shall design and detail all structures or improvements not covered by standard detail sheets.
16. As a minimum, the final design plans shall include the following:
  - a) Title Sheet
  - b) Typical Sections
  - c) Plan Sheets
  - d) Profile Sheets
  - e) Intersection Detail Sheets, including curb return profiles
  - f) Traffic Control Plan Sheets
  - g) Stormwater Pollution Prevention Plan
  - h) Drainage Area Map,
  - i) Hydrologic and hydraulic data for drainage systems
  - j) Permanent Signing Quantity Sheets
  - k) City Standard Detail Sheets
  - l) Earthwork Quantities, Cross Sections and Entrance Sections with existing and proposed grades
  - m) Miscellaneous Detail Sheets, non-standard details

n) Summary of Quantities listed as bid items.

Additional plans and information may be required to complete the Final Plans.

17. Provide all utility companies a set of final plans for their use. Meet with each utility company to discuss the relocation of their facilities and the time schedule.
18. Provide estimate of probable construction cost with each submittal to KDOT. This will include Office Check, Final Check, and the PS&E Plans.
19. AutoCad Plot Files, AutoCad .dwf files, .tif files, or .pdf files are to be supplied in lieu of original mylars. Two (2) hard copies of the final plans, printed on 22" x 36" bond paper, shall also be delivered to the City.
20. Attend one City Commission meeting discuss the proposed improvements with the City Commissioners.

#### **IV. BIDDING PHASE**

1. Bidding Phase services, if requested by the City, will be provided by a separate agreement.

#### **V. CONSTRUCTION PHASE**

1. Construction Phase services, if requested by the City, will be provided by a separate agreement.

#### **GENERAL**

1. Provide schedule for completion of concept design, field check plans, office check plans, right-of-way plans, final check plans, mylar plans to KDOT, and bid date.
2. Provide written monthly progress reports as detailed in Exhibit C.
3. If no bid is received less than the engineer's estimate plus 20%, the plans will be modified in an attempt to reduce the cost of the Project at no additional cost to the City. The Project may be abandoned at the City's option; in no case will the Consultant be required to modify plans more than once without additional compensation.

4. Consultant must notify the City of additional costs for service requested prior to performing the service. For example, if Consultant is asked to attend a meeting not included in the scope of service, the cost must be determined before attending.
5. Written notes from any meetings with state, federal, or other agencies will be provided to the City by the Consultant. These need not be “formal minutes” but notes on discussion topics and requirements imposed.
6. All documents must be provided in the current version of Microsoft Word, as designated by the City at the time of execution of this contract.
7. All drawings must be prepared on standard 22” x 36” mylar sheets. Also final plans, field notes, and other pertinent Project mapping records are to be provided to the City on digital format, as detailed in Exhibit D.
8. The project is located on State and/or U.S. routes which will require the Construction Plans to be prepared in accordance with the *KDOT Design Manual, Volume I (Parts A & B)*. Specifications will conform to the *KDOT Standard Specifications for State Road and Bridge Construction, 2007 Edition* with applicable Special Provisions.

# EXHIBIT B

## FEE SCHEDULE

<b>A. DESIGN PHASE</b>												
<b>A.1. Meetings and Project Coordination</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Kick-off-Meeting	4					2						6
Concept Design Review #1 Meeting	2					2				2		6
Concept Design Review #2 Meeting	2					2				2		6
Field Check Meeting	2					2						4
Utility Coordination Meeting	2					2						4
Office Check Review with City Staff	2					2						4
Site meetings with Property Owners	4					4						8
Public Meeting	4					4				2		10
City Commission Meeting	2											2
<b>Total Hours =</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>50</b>
<b>Total Cost =</b>	<b>\$ 4,200.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 582.00</b>	<b>\$ -</b>	<b>\$ 6,782.00</b>
<b>A.2. Topographic Survey</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Project Survey Control							40		8			48
Topographic Survey	4						16	136	16			172
Utility Coordination						4			8			12
Research & R/W Determination							40		8			48
Prepare Base Map	2						4			24		30
<b>Total Hours =</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>100</b>	<b>136</b>	<b>40</b>	<b>24</b>	<b>0</b>	<b>310</b>
<b>Total Cost =</b>	<b>\$ 1,050.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 400.00</b>	<b>\$ 16,000.00</b>	<b>\$ 13,328.00</b>	<b>\$ 6,600.00</b>	<b>\$ 2,328.00</b>	<b>\$ -</b>	<b>\$ 39,706.00</b>
<b>A.3. Concept Design</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Concept Geometry & Base File	16					80				24		120
Access Control Options on East Leg	8					16				8		32
Traffic Engineering Analysis	16											16
Pavement Section Design	16											16
Street Lighting Options	8											8
Aesthetic Enhancements	4					16						20
Stormwater Analysis & Report	4					40						44
Traffic Control and Project Phasing	16											16
<b>Total Hours =</b>	<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>272</b>
<b>Total Cost =</b>	<b>\$ 15,400.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 15,200.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,104.00</b>	<b>\$ -</b>	<b>\$ 33,704.00</b>
<b>A.4. Concept Design to Field Check Plans (Construction Documents 50% complete)</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Develop Field Check Plans												0
-Title Sheet						2				8		10
-Typical Sections	1					16						17
-Plan and Profiles (6 Sheets)	4					40				40		84
-Drainage Area Map						4				4		8
-Preliminary Traffic Control Plan	8									8		16
-Cross Sections (28 Sheets)	2					16				40		58
Field Check Opinion of Costs	2					8						10
QC/QA, Assemble and Deliver Plans			8			2				8		18
Utility Coordination	4					16						20
<b>Total Hours =</b>	<b>21</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>104</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>108</b>	<b>0</b>	<b>241</b>
<b>Total Cost =</b>	<b>\$ 3,675.00</b>	<b>\$ -</b>	<b>\$ 1,120.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,400.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,476.00</b>	<b>\$ -</b>	<b>\$ 25,671.00</b>
<b>A.5. Office Check Plans and Special Provisions (Construction Documents 98% complete)</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Develop Office Check Plans												0
-Revisions to Field Check Plan Sheets						16				40		56
-Earthwork Details						2				2		4
-Intersection and Entrance Details						40				16		56
-Pavement Detail Sheets						1				4		5
-Road & Surfacing Quantities Sheet						1				4		5
-Erosion Control Plans and Details						16				4		20
-Permanent Seeding										1		1
-Traffic Signal Plans	40									4		44
-Street Lighting Plans	16									2		18
-Pavement Marking Plans	8					16				2		26
-Traffic Control Plan and Details	16									2		18
-Cross Sections (28 Sheets)						16				24		40
Prepare Special Provisions			2			8					16	26
Office Check Opinion of Costs	1					4						5
QC/QA, Assemble and Deliver Plans			8			1				8		17
Utility Coordination	2					8						10
<b>Total Hours =</b>	<b>83</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>129</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>113</b>	<b>16</b>	<b>351</b>
<b>Total Cost =</b>	<b>\$ 14,525.00</b>	<b>\$ -</b>	<b>\$ 1,400.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 12,900.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,961.00</b>	<b>\$ 800.00</b>	<b>\$ 40,586.00</b>



# EXHIBIT B

## FEE SCHEDULE

<b>A.6. Final Check Plans and Special Provisions (Construction Documents 100% complete)</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Develop Final Check Plans												0
-Revisions to Office Check Plan Sheets						16				24		40
-Road Quantities						8						8
-Erosion Control Quantities						4						4
-Seeding Quantities						1						1
-Traffic Signal Quantities	4											4
-Street Lighting Quantities	2											2
-Pavement Marking Quantities	2											2
-Signing Quantities	4											4
-Traffic Control Quantities	2											2
Revisions to Special Provisions						4					4	8
Final Check Opinion of Costs	1					4						5
QC/QA, Assemble and Deliver Plans			4			1				8		13
Utility Coordination	4					16						20
<b>Total Hours =</b>	<b>19</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>4</b>	<b>113</b>
<b>Total Cost =</b>	<b>\$ 3,325.00</b>	<b>\$ -</b>	<b>\$ 560.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,400.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,104.00</b>	<b>\$ 200.00</b>	<b>\$ 12,589.00</b>
<b>A.7. PS&amp;E Construction Documents (Mylars) and Permits</b>												
Task	Principal	Associate	PE III	PE II	PE I	Design Eng.	Sen. Proj. Surv.	GPS Surveyor	Survey Crew	Cad Operator	Clerical	Total
Hourly Rate =	\$ 175.00	\$ 155.00	\$ 140.00	\$ 130.00	\$ 110.00	\$ 100.00	\$ 160.00	\$ 98.00	\$ 165.00	\$ 97.00	\$ 50.00	
Prepare Mylar Construction Plans						4				16		20
Prepare Special Provisions						4						4
Engineer's Estimate	1					2						3
Right-of-Way Acquisition (4 properties)												0
-Legal Description (Four Each)							8					8
-Strip Map (Four Each)										8		8
Stormwater Notice of Intent						1						1
Right-of-Way Clearance Form						1						1
Utility Clearance Form						1						1
<b>Total Hours =</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>46</b>
<b>Total Cost =</b>	<b>\$ 175.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,300.00</b>	<b>\$ 1,280.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,328.00</b>	<b>\$ -</b>	<b>\$ 5,083.00</b>

**Subtotal A. Design Phase = \$ 164,121.00**

<b>B. REIMBURSABLE EXPENSES</b>					
	12	each @	\$75.00	=	\$900.00
1. Ownership and Easement Certificates					
2. Geotechnical Subconsultant	1	Lump Sum @	\$3,500.00	=	\$3,500.00
3. Landscape Architect Subconsultant	1	Lump Sum @	\$9,500.00	=	\$9,500.00
4. Mileage	300	miles @	\$0.55	=	\$165.00

**Subtotal B. Reimbursable Expenses = \$14,065.00**

**TOTAL ESTIMATED ENGINEERING FEE (Subtotal A + Subtotal B) = \$ 178,186.00**