



## KOEHLER ENGINEERING & LAND SURVEYING, INC.

194 Coker Lane  
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December 15, 2022

Rev. Jan. 3, 2023

Mrs. Anna Bergmark, PE  
City Engineer  
City of Jackson, Missouri  
101 Court Street  
Jackson, Missouri 63755  
Via email @ [abergmark@jacksonmo.org](mailto:abergmark@jacksonmo.org)

### **RE: Design of Replacement Bridge for Sunset Drive, Jackson, MO**

Mrs. Bergmark,

In accordance with your request for a proposal to replace the existing bridge entrance into Sunset Hills Subdivision on North High Street (Highway '61'), I have reviewed existing information, site conditions, and have prepared this proposal.

Our scope of services would be to produce final design documents (Plans and specifications) for bidding and construction of a new bridge to replace the existing structure presently located off the East side of US Highway '61'.

The new structure will be generally located in the present structure location, and will utilize the existing approaches to the extent possible, although portions of the existing approaches will have to be removed for construction of the bridge foundation. The design will include a structure capable of supporting an HL-93 loading in accordance meeting current AASHTO Design standards. The structure will provide 2 vehicle lanes, each 12 feet wide, with an attached 8 foot pedestrian way. A barrier curb will be provided between the pedestrian and vehicular traffic paths. The pedestrian way will be connected to the existing walk located east of the bridge, but will not provide a westward extension.

The design will provide two options or alternates for the bridge foundations. The base design option will be for a reinforced concrete foundation bearing directly on existing bedrock in the Hubble Creek channel. The alternate design will include a GRS-IBS bridge foundation which will consist of mechanically stabilized earth walls bearing on bedrock which will support the bridge super structure. The super-structure is anticipated to be of prestressed concrete members.

The design will make use of existing survey and preliminary design information developed in the alternatives analysis previously prepared for this structure for the City of Jackson, MO, and the City Wide Bridge Plan.

Our services will include the following:

- **Design Phase:**
  - Prepare applications and submit for requisite permits needed for the project construction (USACE, MDNR, MoDOT, FEMA, etc.)
  - Review of the bridge hydraulics, including modeling existing and proposed conditions utilizing the USACE program HEC-RAS, and preparation of a no-rise certification for the new construction.

- Perform structural design calculations for both design alternatives, for foundations and all structural elements
- Preparation of detailed plans and specifications for the bidding and construction of the project
- Develop and prepare plans for lighting along the walk / bridge location in accordance with City standards
  - All work is anticipated to take place existing City Right of Way, and as such, no right of way acquisition services are provided.
  - No utility relocations are anticipated.
- **Bidding Phase (in CE Contract Phase):**
  - Bid Services, including drafting the notice to bid, conducting pre-bid meeting, addressing questions during the bid process, and issuing addendum as needed. We will attend the bid opening, tabulate bids, and make a formal recommendation of award
- **Construction Phase Services:** *(A funding source for the project construction has not been determined. It is possible that the City will fund from existing sources, or the project could be funded through the Missouri Department of Transportation or through another funding vehicle. In the event that funding is found from a source other than existing City funds, the Construction Administration will comply with requirements from the final funding source. In the event that funding is provided from City funds, the CA services will follow procedures to document construction and funding which will allow the City to submit for Soft-Match Credit which may be utilized as local match for a future BRO funded project.)*
  - Once the project is awarded, our office will draft contract documents to the lowest, responsible bidder.
  - During construction, our office will administer the contract on behalf of the City
  - Our staff will provide construction inspection and materials testing to ensure that the structure is built in conformance with the project documents
  - Our staff will review and process RFIs, COs, etc. as necessary
  - Our staff will review pay applications as submitted
  - Issue certificate of completion and recommend acceptance by the City

Our fees for the project under this proposal would be as follows:

➤ Base Design Services:	\$30,800.00
➤ Design of Alternate Bridge System:	\$4,000.00
➤ Construction Phase Services (Conventional Bridge):	\$24,750.00
[or]	
➤ Construction Phase Services (GRS-IBS)	\$18,400.00

Fee derivations for each of the work phases noted above are included with this submission. These fee estimates are based upon our 2023 standard rate schedule which has previously been supplied. In the event that the administrative phase of the work is funded by MoDOT through the BRO program, the rates that will be utilized will be the then effective rates with current overhead rate development as approved by MoDOT at that time.

Our schedule for the development of plans and specifications for the project to be bid would be 180 days from receipt of notice to proceed from the City, which includes obtaining environmental

clearances. Milestones for the project area as follows (All milestones are in calendar days from notice to proceed date).

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|---|----------|
| ➤ Submit documents for environmental clearances       | 21 Days  |
| ➤ Complete HEC-RAS modeling of both alternatives      | 45 Days  |
| ➤ Receive all environmental clearances                | 60 Days  |
| ➤ Submit 65% plans with estimate for review with City | 110 Days |
| ➤ Submit final plans for review                       | 150 Days |
| ➤ Submit final plans, specification, and estimate     | 180 Days |
- Construction Phase services will be coordinated with the Contractor and needs of the City.

The schedule above assumes timely response from the City for review and comment on plans and similar data.

Thank you for the opportunity to provide this proposal to the City of Jackson for this project. If you need any further information, have any questions, or I can be of any further assistance in any capacity, please contact me at your earliest convenience.

Best Regards,

KOEHLER ENGINEERING &  
LAND SURVEYING, INC.



Chris Koehler, PE, PLS

**Sunset Bridge**  
**Replacement Bridge Structure**  
*Schedule: 6 Months*

**Preliminary Engineering (Design) Phase Services**

**Project Management**

Description:	Hours	Rate	Total
PM, Review and oversight,	8	\$ 165.00	\$ 1,320.00
<b>Subtotal:</b>			<b>\$ 1,320.00</b>

**Environmental Clearances / Permitting**

Description:	Hours	Rate	Total
Principal	0	\$ 165.00	\$ -
Survey Field Crew	2	\$ 150.00	\$ 300.00
Senior PE	24	\$ 125.00	\$ 3,000.00
<b>Subtotal:</b>			<b>\$ 3,300.00</b>

**Hydraulic Analysis (HEC Model & Reporting)**

Description:	Hours	Rate	Total
Principal	4	\$ 165.00	\$ 660.00
Survey Field Crew	4	\$ 150.00	\$ 600.00
Senior PE	32	\$ 125.00	\$ 4,000.00
<b>Subtotal:</b>			<b>\$ 5,260.00</b>

**Design Calculations**

Description:	Hours	Rate	Total
Principal	4	\$ 165.00	\$ 660.00
Senior PE	10	\$ 125.00	\$ 1,250.00
Design PE	60	\$ 110.00	\$ 6,600.00
<b>Subtotal:</b>			<b>\$ 8,510.00</b>

**PS&E Preparation:**

Description:	Hours	Rate	Total
Principal	10	\$ 165.00	\$ 1,650.00
Senior PE	12	\$ 125.00	\$ 1,500.00
Design PE	84	\$ 110.00	\$ 9,240.00
<b>Subtotal:</b>			<b>\$ 12,390.00</b>

<b>Total Estimated Fee for Base Design</b>	<b>\$ 30,780.00</b>
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**Alternate Bridge System Design:**

Description:	Hours	Rate	Total
Principal	2	\$ 165.00	\$ 330.00
Senior PE	2	\$ 150.00	\$ 300.00
Design PE	32	\$ 110.00	\$ 3,520.00
<b>Subtotal:</b>			<b>\$ 4,150.00</b>

**Sunset Bridge**  
**Replacement Bridge Structure**

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**Construction Phase Services:**

**Project Management**

Description:	Hours	Rate	Total
PM, Review and oversight	10	\$ 165.00	\$ 1,650.00
<b>Subtotal:</b>			<b>\$ 1,650.00</b>

**Bidding Services:**

Description:	Hours	Rate	Total
Principal	6	\$ 165.00	\$ 990.00
Senior PE	2	\$ 125.00	\$ 250.00
Design PE	2	\$ 110.00	\$ 220.00
<b>Subtotal:</b>			<b>\$ 1,460.00</b>

**Construction Inspection and Testing:**

Description:	Hours / EA	Rate	Total
Principal	8	\$ 165.00	\$ 1,320.00
Survey Field Crew	8	\$ 150.00	\$ 1,200.00
Design PE	8	\$ 125.00	\$ 1,000.00
Materials Technician	168	\$ 64.00	\$ 10,752.00
Nuclear Gage	12	\$ 33.00	\$ 396.00
Concrete Specimens	36	\$ 23.00	\$ 828.00
Grout Cubes	18	\$ 23.00	\$ 414.00
<b>Subtotal:</b>			<b>\$ 15,910.00</b>

**Administrative Services:**

Description:	Hours	Rate	Total
Principal	8	\$ 165.00	\$ 1,320.00
Materials Technician	40	\$ 110.00	\$ 4,400.00
<b>Subtotal:</b>			<b>\$ 5,720.00</b>

<b>Total Estimated Fee for Construction Phase Services:</b>	<b>\$ 24,740.00</b>
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