



March 17, 2020

Hon. Kevin Neal – Judge Executive
Marshall County Fiscal Court
1101 Main Street
Benton, KY 42025

**Re: Engineering Services Proposal
Draffenville West of Parkway Sewer Expansion – Phase 1
Marshall County Sanitation District
Marshall County, KY**

Judge Neal:

Thank you for the opportunity to prepare this engineering services proposal for your review. In preparing this proposal, RIVERCREST Engineering, Inc. (RIVERCREST) has reviewed the project area, mapping, and information prepared for the County in December of 2018 for the sewer expansion alternatives. The following provides an outline of the engineering services and associated fees proposed for the Phase 1 extension of sewer services to the County's new multipurpose building and maintenance facilities, located west of the I-69/Purchase Parkway. At this time, RIVERCREST has the capacity to begin work on this project within 2 weeks following approval of this proposal and execution of a written engineering services agreement. Our proposal addresses the following project phases,

- a) Preliminary Evaluation
- b) Surveying & Preliminary Design
- c) Final Design & Permitting
- d) Easement Development & Negotiation
- e) Construction Contract Procurement
- f) Construction Engineering & Closeout
- g) Construction Observation.

Based on our previous correspondence and review of the Sanitation District's existing sewer utilities, RIVERCREST understands this project will include installation of the following infrastructure,

- a) Approximately 2,700 l.f. of 8-inch gravity sewer,
- b) Estimated 100 gpm capacity duplex wastewater lift station near Galloway Lane,
- c) Approximately 700 l.f. of 6-inch force main, and
- d) Approximately 340 l.f. of 24" bored steel encasement under I-69.

The following is a more detailed summary of our proposed scope of services, fees and projected schedule for this project:

I. Preliminary Evaluation

RIVERCREST has previously prepared GIS level preliminary mapping for the project and will coordinate with our surveying sub-consultant and the Marshall County PVA, to review adjacent property ownership information throughout the project corridors, including existing easements,

Rivercrest Engineering Incorporated, 7020 U.S. Highway 68 W, Paducah, Kentucky 42003

platted properties/subdivisions, and available rights-of-way for the sewer improvements. Detailed grantor/grantee searches will be provided by our surveying sub-consultant (On Point Geomatics – OPG) at a later stage as required based on the final design alignments. In addition to this property research, RIVERCREST will coordinate with member utility companies (Benton Gas, North Marshall Water District, and AT&T) to obtain available mapping and record drawings. This step will aid in identifying potential conflicts ahead of the field surveying phase.

Following this initial review, RIVERCREST will schedule on site meetings with your staff, Sanitation District staff, and our surveying sub-consultant, OPG. The intent of these meetings will be to obtain a consensus and understanding of the chosen project corridors prior to our surveyor initiating the topographic survey. RIVERCREST understands that topographic surveys will be required for the gravity sewer, force main, and the lift station site. These surveys will be imperative to identifying the existing infrastructure, topography, utilities, available property limits, which will be required during the subsequent phases of this project.

II. Survey Coordination & Preliminary Design

The RIVERCREST team will conduct a field survey of the project limits as described previously. The survey will generally consist of detailed topographic surveying of a 3,400-foot by 40-foot-wide corridor for the sewer line construction work, and lift station site, including surveys in easement areas and along right of ways. A copy of the previously prepared sewer planning map has been included with the proposal for your use and reference.

The project's field survey phase will consist of:

- Completing KY 811 BUD calls and coordination of field utility locates
- Establishing project survey control and benchmarks to KY State Plane coordinate system
- Collecting survey data including, building corners, miscellaneous structures/signage, edges of pavement, visible property/right-of-way corners, existing marked utility information, culverts, driveways, ditch/break lines, large trees, and general topographic data.
- Utilizing GPS or conventional survey techniques set up on the established control monuments that will be consistent with the previous sewer expansion project. The horizontal control datum will be referenced to Kentucky State Plane South Zone for GIS compatibility. Vertical control is typically referenced to NAVD88 datum.
- Obtaining geotechnical soil borings to evaluate subsurface characteristics at the lift station location.

The preliminary design process will consist of:

- Developing gravity sewer and force main alignments, lift station site plan, and Parkway crossing site plan drawings
- Evaluating existing utilities, property limits and ownership
- Developing and reviewing existing ground surface models and geotechnical data
- Developing plan/profile sheets associated with the proposed gravity sewer, lift station and force main
- Evaluating tie-in locations at the treatment plant and County building sites
- Conducting on site review with Sanitation District operations staff

- Issuing design recommendations based on engineering judgment and feedback from meeting
- Prepare and deliver a preliminary opinion of probable construction cost.

During this phase, and prior to developing a KYTC encroachment permit submittal, RIVERCREST staff plans to meet with KYTC officials to obtain a consensus on the design alignment and Federal Highway Administration requirements.

III. Final Design & Permitting Phase

Upon receiving approvals from your office, and Sanitation District, for the preliminary design concepts, RIVERCREST will update design documents and complete final construction plans. Design drawings typically include the following:

- Cover Sheet
- General Notes & Location Map
- Geotechnical Sheet
- Project Pay Item Quantity Summary Sheet
- Gravity Sewer Alignment Plans & Profiles
- Lift Station Site Plan
- Force Main Alignment Plan & Profiles
- Construction Details
- Electrical Details

Plan sheets are typically developed at minimum 1" = 50' horizontal scale.

RIVERCREST will utilize standard technical specifications for completion and submittal of a standard KY Division of Water – Wastewater Construction permit application package. This submittal typically includes design plans, technical specifications, construction permit applications and related submittal documents. Due to the nature and configuration of this project, RIVERCREST anticipates the need to prepare and submit a KY Transportation Cabinet/FHWA encroachment permit application prior to construction.

Additional permitting services for securing environmental approvals through the U.S. Fish & Wildlife Service, Army Corps of Engineers, Kentucky Heritage Council, NRCS, and Division of Water Floodplain & Water Quality Certification Sections are not anticipated and have been excluded from this services proposal. Also, permitting services such as endangered species studies, critical habitat studies, and historical landmark or archaeologic studies have not been included in our proposed scope of work. These permitting services and studies can be added to our scope later at the Fiscal Court's request, with our service fees being adjusted on an agreed lump sum or hourly T&M basis.

IV. Utility Easement Development & Acquisition

RIVERCREST anticipates the need to prepare and secure utility easements for completion of the project's construction phase, primarily focused on the gravity sewer corridor. Our anticipations are based upon site and available PVA data reviews along the proposed corridors. RIVERCREST proposes to prepare up to three (3) easement descriptions for review by the County's attorney.

RIVERCREST's surveying sub consultant will review and approve each description prior to the County's legal counsel preparing/approving the proper easement acquisition documents. For the purposes of this proposal, RIVERCREST assumes that any required easements will be secured by the RIVERCREST team.

Once the final easement documents are obtained from County legal counsel, RIVERCREST will provide four good faith efforts to negotiate the easements on behalf of the Sanitation District. These efforts will include, initial contact through mailing of the easement package, telephone contact (when possible), and up to two on site meetings with the property owner(s). If successful, we will forward the easement documents to the County for recording. If unsuccessful after four attempts, we will deliver the documents to you, and the District, along with our discussion records and await further direction. For the purposes of this proposal, our easement negotiation scope excludes exercises beyond the four good faith attempts.

In the event additional easement development and/or negotiations become necessary, the RIVERCREST team can conduct these activities in accordance with our established time & materials service rates.

V. Procurement Services

RIVERCREST will prepare a project manual complete with standard contract and procurement documents for the Court's use in obtaining competitive construction bids for the sewer expansion project. RIVERCREST will work with you to develop one (1) general contract procurement package consisting of plans, specifications, and documentation. RIVERCREST will prepare an advertisement for bids and forward to the local newspaper, local Association of General Contractors (AGC) office in Paducah, and surrounding plan rooms, if requested. Our proposal assumes that the MCFC will accept all direct expenses and invoices for advertising the project. RIVERCREST will also coordinate with and upload the construction documents to River City Printing, LLC (in Paducah) for document reproduction and distribution to interested Bidders.

RIVERCREST will coordinate the bidding process, respond to prospective bidder inquiries, issue addenda if necessary, open and tabulate bids received, make necessary reference calls, prepare a letter of award recommendation, coordinate with Contractor, Sanitation District, and the MCFC for completion and execution of contract documents. As of the date of this proposal, RIVERCREST assumes that the MCFC will provide funding for these improvements, and no additional funding agency coordination will be required. If, following approval of this proposal, the MCFC receives State or Federal funding for these efforts, RIVERCREST can provide the additional procurement services at the Fiscal Court's request, with our service fees being adjusted on an agreed lump sum or hourly T&M basis.

It is estimated that RIVERCREST would participate in two (2) project meetings: one to review the contract plans and procurement package with the Sanitation District and MCFC prior to soliciting bids, and the second being the bid opening.

VI. Construction Engineering & Closeout

RIVERCREST's Project Manager will receive, review and comment on material and shop drawings submittals. Prior to initiating construction, survey crews will field stake the centerline of the proposed gravity sewer and force main on approximately 100-foot intervals, all vaults, and layout the proposed lift station site. We will also stake significant changes in horizontal alignment, bores, encasements, tie-ins and manhole locations. Our proposal assumes that we will stake the project alignment once. All remedial or additional staking requested by the Contractor or Owner can be provided on a time & materials basis.

Upon completion of field staking, RIVERCREST's project manager will schedule and conduct a pre-construction meeting with the selected general contractor, associated subcontractors, engineering representatives, Sanitation District and MCFC staff. Our project manager will review schedule, project communication roles, plans, details, and any additional information deemed useful.

RIVERCREST will provide construction engineering services including, coordination with MCFC and District staff, contractor, and the inspector on project activities and progress, coordination and attendance at monthly progress meetings, processing of monthly pay requests and coordination of required Contractor submittals and payroll certifications, field walkthrough/punchlist inspection, KDOW certification, project closeout, and record drawing development and distribution services.

VII. Construction Observation

RIVERCREST estimates our construction representative will be on site approximately six (6) hours per day during active construction activity. We have also allocated two (2) hours per day for preparation, travel, document preparation, and photographic logging of daily construction activity. We estimate our field personnel will be actively involved with the construction process, five (5) days per week for a project duration of ten (10) calendar weeks.

During the construction phase, our project representative will track daily pay item quantities, prepare detailed field book sketches for the lift station structure, force main installations, and gravity sewer installations, log daily photos of the construction activities, assist with interpretation of the project plans and specifications, and coordinate with District operations staff for required system shut-downs, pump and line testing, and tie-ins.

VIII. Proposed Fee

Our proposed engineering fee is divided into Lump Sum work descriptions for the preliminary evaluation, surveying & preliminary design, final design / permitting, procurement, construction engineering & closeout, and periodic construction observation services as noted below:

• Preliminary Evaluation	\$4,000.00
• Survey Coordination & Preliminary Design	\$13,700.00
• Final Design & Permitting	\$23,500.00
• Easement Development & Negotiation	\$3,000.00
• Procurement	\$3,000.00

• Construction Engineering & Closeout	\$14,500.00
• Construction Observation	\$30,000.00
• <u>Direct Expenses – Survey/Geo/Electrical/Mileage</u>	<u>\$15,600.00</u>
Total Proposed Fee	\$107,300.00

IX. Schedule

We estimate that the engineering services for the project as described herein can begin within 2 weeks following execution of an engineering services contract, and can be completed on the general timeframe as noted below:

Preliminary Evaluation	2 weeks
Preliminary Design & Surveying	4 weeks
Final Design	2 weeks
Permitting	4 weeks
Easements	5 weeks
Procurement Phase	4 weeks
Construction Phase	10 weeks
Project Closeout	2 weeks

Once you have had an opportunity to review our proposal, please contact me to discuss any concerns or questions you may have. If the Fiscal Court is agreeable to starting this work in accordance with this proposal, please sign below, and return to us for initiating work. As we are currently working under a professional engineering services agreement with the Marshall County Fiscal Court, we understand that we will continue to operate under this agreement for the duration of this project.

Sincerely,

RIVERCREST ENGINEERING, INC.



Charles D. McCann II, P.E.
Project Manager

APPROVED BY:



Hon. Kevin Neal – Judge Executive
Marshall County Fiscal Court