



**Spout Springs Water Reclamation
Facility Expansion To 1.6 MGD
Hall County, Georgia**

Task Order 2023-008
Design Services for Capacity Upgrade

Submitted to Hall County, Georgia
September 21, 2022, 2:00 P.M.

Prepared By:

CEC

CIVIL ENGINEERING CONSULTANTS, INC.

Civil & Environmental Engineering

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Civil & Environmental Engineering

September 21, 2022

Ms. Debra Howington, C.P.M.
Hall County Board of Commissioners
Purchasing Department of the Hall County Commissioners
2875 Browns Bridge Road, 4th Floor
Gainesville, Georgia 30504

RE: Task Order Price Proposal– Task Order #2023-008 Design Services for Capacity Upgrade for S.S.W.R.F.
Expansion to 1.6 MGD

Dear Ms. Howington:

Thank you for the opportunity to submit our cost proposal for the above referenced project. As you review our proposal, you will see that Civil Engineering Consultants, Inc. demonstrates both the desire and high-level expertise necessary to execute all aspects of the project outlined in the Task Order request.

We believe that our team possesses the technical talent, resources, industry-wide experience, and partnering skills necessary to assist the Hall County in achieving your goals and objectives for this project. It is important to note that our key personnel are duly licensed to practice engineering in the state of Georgia, thus we commit this team of experienced engineers and support staff to the success of this project. Members of our design team visited the project site to review existing conditions. Using the information obtained in the site visit, we developed a plan for implementing the project as described in our proposal narrative. We believe our approach provides Hall County with a cost effective approach for expanding the existing facility.

We thank you in advance for your thoughtful consideration. CEC is proud of our dedication to our clients and of our record of accomplishments. We would be honored by the opportunity to work with you on this most important project.

Please feel free to contact me with any questions.

Very truly yours,
CIVIL ENGINEERING CONSULTANTS, Inc.



Andrew E. Lovejoy, P.E.
President

INTRODUCTION

The objective of this project is the preparation of plans and specifications with subsequent bidding and construction for the improvements to increase the Spout Springs Water Reclamation Facility's treatment capacity to 1.6 mgd. Civil Engineering Consultants (CEC) has studied the information provided by Hall County, visited the site, and determined our approach will be different than the approved DDR. As such, we intend on amending the existing DDR dated May 7, 2012, and resubmitting to Georgia EPD.

Regarding zinc removal, CEC intends on incorporating zinc removal technology into our design. Our intent is not to revise the zinc removal DDR.



SITE VISIT OBSERVATIONS

CEC met with the plant operations staff and toured the facility. During the visit, CEC noted the following:

- The grit pump and the grit screw need replacement.
- The cranes located at the SBRs are not certified and some need repair. Our suggestion is to remove the cranes and use a lift truck when equipment maintenance is needed.
- Filter controls, sensors backwash pumps should be replaced.
- A new motor control center will be required for the expansion project.
- The generator is adequate for the expansion.
- The existing SBR controls can be reused and reconfigured. This is discussed later in our approach.
- If zinc laboratory testing is to be performed on site, a fume hood must be installed in the lab; a byproduct of zinc testing is cyanide. Consider sending samples out to a certified lab as an alternative.
- UV system installed is expandable to 2.69 mgd. The peak hour flow for the expansion is 4 mgd. Therefore, UV system replacement or additions will be required.
- Upgrade instrumentation as needed for the SBRs.

Since the preparation of the 2012 DDR, the equipment has had an additional 9 years of use. CEC believes additional work will be needed beyond that what's recommended in the DDR to complete the upgrade to 1.6 mgd. CEC's approach includes items noted in the site visit.



APPROACH

CEC is familiar with the current treatment plant design and treatment technologies utilized due to our involvement previously with the site and with other treatment plant work we have performed. To achieve the treatment capacity and meet the effluent NPDES permit requirements, our approach is presented below.

CEC proposes the following improvements:

- Replace the necessary grit system equipment.
- Modify the existing four basin SBR into a two SBR basin.
- Convert the aerobic digesters to a single SBR basin.
- Add one SBR basin and equipment.
- Add small post equalization basin.
- Reuse the SBR / Digester controls and modify to control the four basin SBR.
- Incorporate zinc removal technology.
- Add new disc filters for tertiary treatment.
- Add new filters backwash pumps to existing filters and update controls and instruments.
- Add UV disinfection capacity.
- Add 2 aerobic digesters.
- Add blowers.
- Upgrade electrical and control systems as required.
- Civil site and paving improvements.



SCOPE OF SERVICES

Our services are subdivided into the following tasks:

Basic Services	
Task Number	Task Name
1	Project Initiation
2	Preliminary Evaluation
3	Detailed Design
4	Permitting
5	Bidding Assistance
6	Construction Services
7	Survey

PROJECT ASSUMPTIONS

CEC takes no exception to the project assumptions in the RFP:

BASIC SERVICES

Services to be performed by CEC are broken down into the following tasks:

TASK 1 – PROJECT INITIATION PHASE

Project Plan: Develop a project schedule. At a minimum, the schedule shall include each of the work elements identified in each task of this Scope of Services.

Quality Control Procedures: Prior to submitting documents to the Hall County for review, a quality control review will be conducted of each submittal.

A kick-off meeting will be held with Hall County. Following the kick-off meeting, our team will perform a site visit of the treatment plant to assist in the design approach and identify areas requiring additional investigation.

An electrical evaluation will be performed during this project phase to identify improvements.

TASK 2 – PRELIMINARY EVALUATION

Under this task, CEC will perform the following key tasks.

- Accumulate and review applicable data, criteria, codes, standards, regulations, and other information pertinent to delivery of the project.
- Analyze data obtained to assist with final design
- Develop requirements for Geotechnical evaluation
- Coordinate with Geotechnical firm
- Identify locations for topographic survey work to be performed

Geotechnical work will be performed through an allowance. CEC will perform survey work, if required. Our intent is to utilize Geosystems to provide geotechnical investigation. CEC has included an allowance of \$5500 for the geotechnical investigation and reporting.

TASK 3: DESIGN

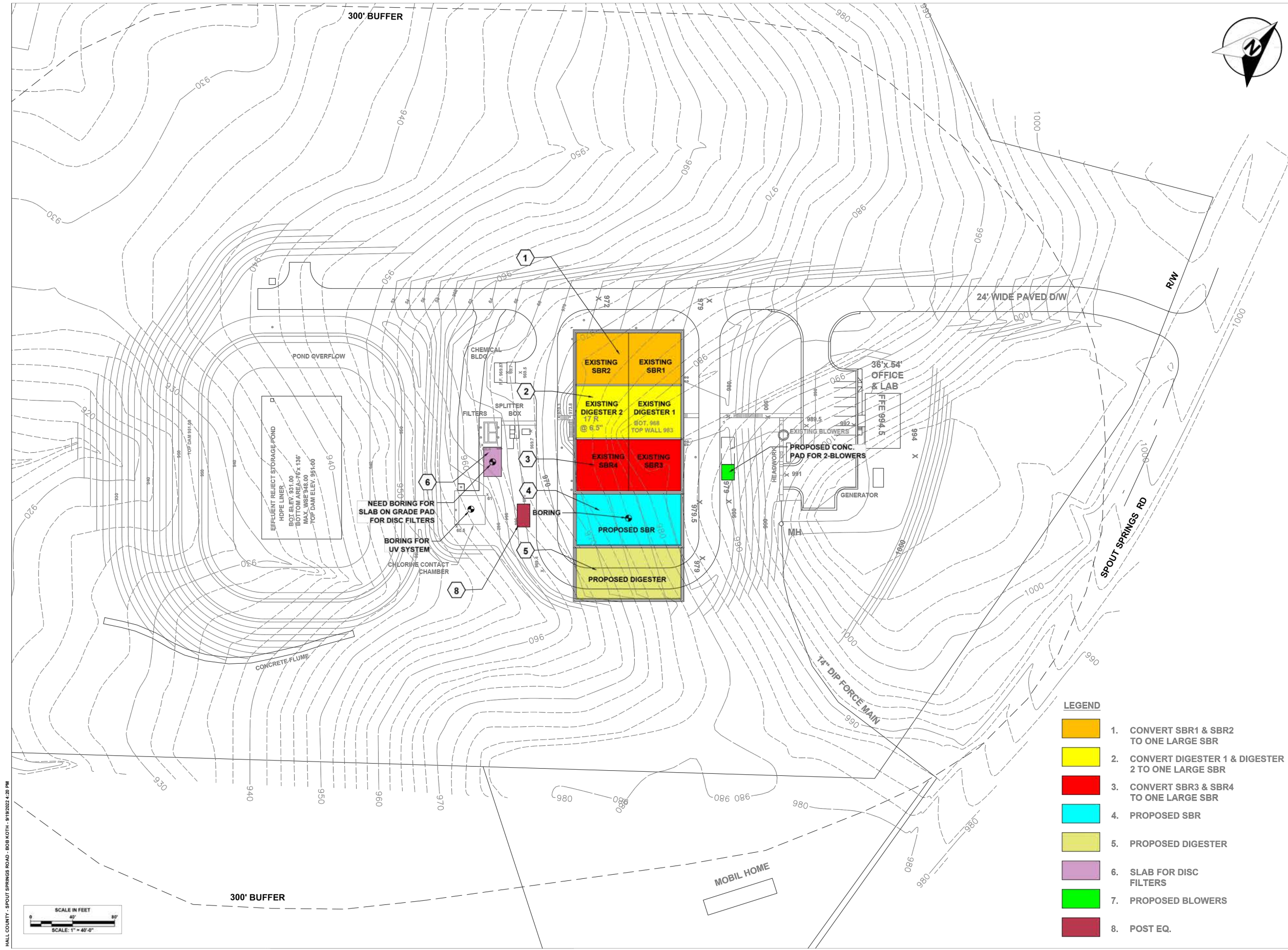
CEC intends to amend sections of the existing DDR to accommodate our design approach and subsequently obtain approval for the amended DDR from the Georgia EPD. We recommend continued use of SBR technology because of its reliability, staff familiarity, overall performance and constructibility. We intend on using common wall construction to reduce costs.

Our design phase will be used to produce plans and specifications for bidding and construction. Our design tasks include the following:

- Prepare detailed drawings for the needed capacity improvements.
- Design electrical and control modifications required to support the additional equipment and processes.
- Prepare technical specifications.
- Conduct review meetings at 60% and 90% phase of design completion.
- Prepare opinion of probable construction cost at 60 and 100% stages of design.
- Perform CEC's Quality Control Procedures throughout the project.

Figure 1 illustrates our concept design to expand the facility to 1.6 mgd.

Since the execution of the progressive design build project for zinc removal, we have identified the potential for an in-plant source for zinc. In many facilities, PAC is used for chemical precipitation. A low cost PAC is typically of poor quality and can be a source for zinc that can accumulate or recycle within the treatment plant. If PAC is being used, consider a zinc analysis to identify if a better quality PAC worth pursuing.

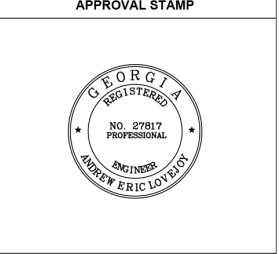


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CLIENT



APPROVAL STAMP



RELEASES

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PROJECT NAME

**SPOUT SPRINGS WTP
 CAPACITY EXPANSION TO
 1.6 MGD**

PROJECT INCEPTION DATE

MONTH/DATE/YEAR

SHEET TITLE

SITE PLAN

DRAWING NUMBER

 OF
 #

Figure 1 - Concept Plan

TASK 4: PERMITTING

CEC will assist in the preparation of permit application forms required for the proposed improvements and discuss the submittal requirements with each permitting agency. It is further assumed that CEC will support the Hall County Project Manager in acquiring County building permits. As required, CEC will support Hall County during meetings with regulators such as Georgia EPD. CEC will obtain construction plan approval from the Georgia EPD prior to bidding.

TASK 5 – BIDDING ASSISTANCE

CEC will work closely with Hall County purchasing department throughout this phase of the project. Services to be provided by CEC including

- Create Contract documents using Engineers Joint Contract Documents Committee (EJDCC) standards.
- Assist with the preparation of the bid advertisement.
- Issue addenda and assist in answering questions.
- Attend a pre-bid meeting.
- Attend the bid opening.
- Consult with Hall County as required.

TASK 6 - CONSTRUCTION PHASE SERVICES

Once the construction contract has been executed by Hall County, CEC will proceed with the general construction services that include:

- Attend pre-construction meeting and monthly progress meetings.
- Review submittals.
- Respond to contractor requests for information.
- Conduct limited on-site inspection services.
- Conduct special inspections on an as needed basis.
- Review monthly pay requests and change order requests.
- Prepare as-built drawings.

Our proposal assumes 24 months of construction. To expedite construction and delivery of equipment on a timely basis, CEC recommends the County consider pre-purchasing of the equipment. We have experience with this on a recent project and we can lead the County in executing a pre-purchase agreement. The County will be able to recover the sales tax paid on the purchase of the wastewater treatment equipment.

ATTACHMENT D
COST PROPOSAL FORM

HALL COUNTY

REQUEST FOR PROPOSALS (RFP)

FOR

SPOUT SPRINGS

WATER RECLAMATION FACILITY EXPANSION TO 1.6 MGD

<u>Description</u>	<u>Cost Proposal</u>
TASK 1: Project Initiation Phase	\$ <u>5,495.00</u>
TASK 2: Preliminary Evaluation	\$ <u>16,640.00</u>
TASK 3: Detailed Design	\$ <u>400,520.00</u>
TASK 4: Permitting	
1. Permit Applications – 40 Hours at \$ <u>90</u> /Hour	\$ <u>3,600.00</u>
2. Meetings – 40 Hours at \$ <u>140</u> /Hour	\$ <u>5,600.00</u>
TASK 5: Bidding Assistance	\$ <u>5,430.00</u>
TASK 6: Construction Services	
1. Construction Inspector – 200 Hours at \$ <u>100</u> /Hour	\$ <u>20,000.00</u>
2. GA PE Engineer Inspections – 40 Hours at \$ <u>140</u> /Hour	\$ <u>5,600.00</u>
3. Contract Administration – 200 Hours at \$ <u>140</u> /Hour	\$ <u>28,000.00</u>
TASK 7: Survey Allowance	\$ <u>10,000.00</u>
Geo-tech services	\$ <u>5,500.00</u>
TOTAL ENGINEERING SERVICES	\$ <u>506,385.00</u>