

## APPENDIX

### Exhibit A

TASK ORDER NUMBER: 7364-6

RFQ NUMBER: 2022-008

PROJECT NAME: Twelve Mile Creek WRF Chemical Sampling and Evaluation

This Task Order pertains to an Agreement (Contract #7364) by and between UNION COUNTY, NORTH CAROLINA (“OWNER”), and Hazen and Sawyer, P.C. (“ENGINEER”), dated October 28, 2021 (“the Agreement”). ENGINEER shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

#### **PART 1.0 PROJECT DESCRIPTION:**

ENGINEER completed the design phase to expand the OWNER’s Twelve Mile Creek Water Reclamation Facility (WRF) from 7.5 mgd to 9.0 mgd. The purpose of this task order is for ENGINEER to complete a chemical system evaluation to support the implementation of the 9.0 mgd WRF expansion.

#### **PART 2.0 SCOPE OF SERVICES TO BE PERFORMED BY ENGINEER ON THE PROJECT:**

Basic services to be provided by ENGINEER include the following task as delineated and expanded in greater detail below and per the Agreement:

- Task No. 1 – Project Coordination and Development
- Task No. 2 – Carbon Chemical System Evaluation
- Task No. 3 – Alkalinity Chemical System Evaluation
- Task No. 4 – Allowance for Additional Services

#### **TASK NO. 1 – Project Coordination and Development**

Subtask 1.1 – The ENGINEER shall be responsible for overall project management for the project. The ENGINEER shall maintain documentation of project activities. The ENGINEER shall coordinate the work internally and externally to plan and schedule activities with and by the OWNER. The ENGINEER shall host a project kickoff meeting to review project scope, schedule, and planning of onsite activities (sampling plan and schedule, etc.).

Subtask 1.2 – The ENGINEER shall review and characterize five (5) years of the most recent influent, process, and effluent data for the five (5) WRFs – Twelve Mile Creek, Olde Sycamore, Crooked Creek, Tallwood, and Grassy Branch.

Subtask 1.3 – The ENGINEER shall develop a supplemental sample plan for the OWNER to perform sampling on the influent, process, and effluent of the Twelve Mile Creek WRF to aid in the chemical system desktop analysis. The ENGINEER shall host a meeting with the OWNER to review the sample plan and adjust the plan with comments from the OWNER to deliver the final plan for execution of the work.

Subtask 1.4 – The ENGINEER will include reimbursable expenses as appropriate in accordance with Part 6.0 of this Task Order and Section 6.1.5 of the Agreement.

### **TASK NO. 2 – Carbon Chemical System Evaluation**

Subtask 2.1 – The ENGINEER shall utilize the data characterization and the supplemental sampling data to perform a carbon chemical system desktop analysis evaluation. The evaluation will include a literature review, supplemental carbon alternatives, proposed dosing locations, and estimated dosing and storage requirements. The ENGINEER will perform a 20-year net present total cost (NPTC) analysis to include capital costs for new chemical storage and feed facilities and labor, maintenance, and operating (electrical and chemical) costs.

Subtask 2.2 – The ENGINEER shall develop a technical memorandum (TM) summarizing the findings and recommendations for the OWNER. The ENGINEER shall host a meeting with the OWNER to review the TM and adjust the TM with comments from the OWNER to deliver the final TM.

### **TASK NO. 3 – Alkalinity Chemical System Evaluation**

Subtask 3.1 – The ENGINEER shall utilize the data characterization and the supplemental sampling data to perform an alkalinity chemical system desktop analysis evaluation. The evaluation will include a literature review, supplemental alkalinity alternatives, proposed dosing locations, and estimated dosing and storage requirements. The ENGINEER will perform a 20-year NPTC analysis to include capital costs for new chemical storage and feed facilities and labor, maintenance, and operating (electrical and chemical) costs.

Subtask 3.2 – The ENGINEER shall develop a technical memorandum (TM) summarizing the findings and recommendations for the OWNER. The ENGINEER shall host a meeting with the OWNER to review the TM and adjust the TM with comments from the OWNER to deliver the final TM.

## TASK NO. 4 – Allowance for Additional Services

The ENGINEER will perform additional services as requested by OWNER. Additional services will be performed only upon written authorization from OWNER, subject to the Not-to-Exceed cost ceiling set forth in Part 6.0.

### PART 3.0 OWNER’S RESPONSIBILITIES:

OWNER shall provide ENGINEER the following:

- Authorize ENGINEER to proceed, in writing.
- Provide 5-years of most recent influent and effluent data of each WRF in electronic format (Excel).
- Provide 5-years of most recent plant operational data including: RAS and WAS flow rates and percent solids; aeration basins MLSS, SRT/MCRT, dissolved oxygen levels; and historical sludge production rates and disposal records.
- Consider all sketches, drawings, maps, and other documents submitted by ENGINEER, and inform ENGINEER of any required decisions.
- Make reasonably available all the information it has on existing utilities and information available for the facilities.

### PART 4.0 PERIODS OF SERVICE:

Services as delineated previously herein shall be completed in accordance with the following tentative schedule:

| <u>Milestone Description</u> | <u>Estimated Date</u> |
|------------------------------|-----------------------|
| Project Notice to Proceed    | January 2025          |
| Task No. 1 Completion        | March 2025            |
| Task No. 2 Completion        | May 2025              |
| Task No. 3 Completion        | July 2025             |

### PART 6.0 PAYMENT FOR SERVICES:

ENGINEER shall be compensated for the previously delineated Basic Scope of Services in accordance with the below indicated fee summary table and associated rate schedule by employee classification. A more detailed “Labor Effort” spreadsheet (Attachment No. 1) is appended to this Task Order and is incorporated herein by reference.

| Task No.                 | Task Description                      | NTE Cost Ceiling | Total           |
|--------------------------|---------------------------------------|------------------|-----------------|
| 1                        | Project Coordination and Development  | \$23,820         | \$23,820        |
| 2                        | Carbon Chemical System Evaluation     | \$17,160         | \$17,160        |
| 3                        | Alkalinity Chemical System Evaluation | \$17,160         | \$17,160        |
| 4                        | Allowance for Additional Services     | \$10,000         | \$10,000        |
| <b>TOTAL PROJECT FEE</b> |                                       |                  | <b>\$68,140</b> |

Notes:

- Individual service category cost ceiling amounts may be re-apportioned to other service categories by OWNER if the Not-To-Exceed Cost Ceiling amount is not exceeded. Cost ceiling will not be exceeded without written amendment to this Task Order.
- Reimbursable Expenses will be invoiced in accordance with Section 6.1.5 of the Agreement for Reimbursable Expenses and mileage will be charged at the federal rate.

Refer to Attachment No. 1 for hourly and fee breakdown. The following hourly billing rates were used for determining the fee amount:

| <u>Classification</u>     | <u>Hourly Billing Rate</u> |
|---------------------------|----------------------------|
| Vice President            | \$300                      |
| Associate Vice President  | \$290                      |
| Senior Associate          | \$270                      |
| Associate                 | \$230                      |
| Senior Principal Engineer | \$195                      |
| Principal Engineer        | \$175                      |
| Assistant Engineer II     | \$155                      |
| Assistant Engineer I      | \$135                      |
| Senior Principal Designer | \$185                      |
| Principal Designer        | \$165                      |
| Designer                  | \$140                      |
| Administrative            | \$90                       |

This Task Order is executed this date of \_\_\_\_\_.

UNION COUNTY,  
NORTH CAROLINA

HAZEN AND SAWYER

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: Brian Matthews

Name: Michael D. Parker, P.E.

Title: County Manager

Title: Associate Vice President

Address: 500 North Main Street  
Suite 600  
Monroe, NC 28112

Address: 9101 Southern Pine Blvd  
Suite 250  
Charlotte, NC 28273

Approved as to Legal Form: BTI

This instrument has been preaudited in  
the manner required by the Local  
Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Deputy Finance Officer

**Attachment No. 1**  
**Union County Water**  
**Twelve Mile Creek WRF**  
**Chemical Sampling and Evaluation**  
**Projected Manhours and Associated Fee**

| Task No. | Description   | VP<br>(Hrs)<br>\$300 | Assoc VP<br>(Hrs)<br>\$290 | Sr Assoc<br>(Hrs)<br>\$270 | Associate<br>(Hrs)<br>\$230 | Sr Princ Eng<br>(Hrs)<br>\$195 | Princ Eng<br>(Hrs)<br>\$175 | Asst Eng II<br>(Hrs)<br>\$155 | Asst Eng I<br>(Hrs)<br>\$135 | Sr Princ Des<br>(Hrs)<br>\$185 | Princ Des<br>(Hrs)<br>\$165 | Designer<br>(Hrs)<br>\$140 | Const Obs<br>(Hrs)<br>\$140 | Admin<br>(Hrs)<br>\$90 | Total<br>Labor Hrs<br>(Hrs) | Total<br>Labor Fee<br>(\$) |
|----------|---|----------------------|----------------------------|----------------------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|------------------------------|--------------------------------|-----------------------------|----------------------------|-----------------------------|------------------------|-----------------------------|----------------------------|
| <b>1</b> | <b>Project Coordination and Development</b>                   |                      |                            |                            |                             |                                |                             |                               |                              |                                |                             |                            |                             |                        |                             |                            |
| 1.1      | Internal and External Coordination                            | 2                    | 20                         |                            |                             | 8                              |                             |                               |                              |                                |                             |                            |                             | 6                      | 102                         | \$8,500                    |
| 1.2      | Data Characterization   | 10                   |                            |                            |                             | 40                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$10,800                   |
| 1.3      | Sample Plan Development                                       | 2                    | 2                          |                            |                             | 12                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$3,520                    |
| 1.4      | Expenses  |                      |                            |                            |                             |                                |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$1,000                    |
|          | Subtotal  | 14                   | 22                         | 0                          | 0                           | 60                             | 0                           | 0                             | 0                            | 0                              | 0                           | 0                          | 0                           | 6                      | 102                         | 23,820                     |
| <b>2</b> | <b>Carbon Chemical System Evaluation</b>                      |                      |                            |                            |                             |                                |                             |                               |                              |                                |                             |                            |                             |                        |                             |                            |
| 2.1      | Desktop Anaysis, Facility Alternatives, Cost Estimating, NPTC |                      | 8                          |                            |                             | 48                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$11,680                   |
| 2.2      | Technical Memorandum  | 4                    | 4                          |                            |                             | 16                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$5,480                    |
|          | Subtotal  | 4                    | 12                         | 0                          | 0                           | 64                             | 0                           | 0                             | 0                            | 0                              | 0                           | 0                          | 0                           | 0                      | 80                          | \$17,160                   |
| <b>3</b> | <b>Alkalinity Chemical System Evaluation</b>                  |                      |                            |                            |                             |                                |                             |                               |                              |                                |                             |                            |                             |                        |                             |                            |
| 3.1      | Desktop Anaysis, Facility Alternatives, Cost Estimating, NPTC |                      | 8                          |                            |                             | 48                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$11,680                   |
| 3.2      | Technical Memorandum  | 4                    | 4                          |                            |                             | 16                             |                             |                               |                              |                                |                             |                            |                             |                        |                             | \$5,480                    |
|          | Subtotal  | 4                    | 12                         | 0                          | 0                           | 64                             | 0                           | 0                             | 0                            | 0                              | 0                           | 0                          | 0                           | 0                      | 80                          | \$17,160                   |
| <b>4</b> | <b>Allowance for Additonal Services</b>                       |                      |                            |                            |                             |                                |                             |                               |                              |                                |                             |                            |                             |                        |                             |                            |
|          | Subtotal  | 0                    | 0                          | 0                          | 0                           | 0                              | 0                           | 0                             | 0                            | 0                              | 0                           | 0                          | 0                           | 0                      | 0                           | \$10,000                   |
|          | <b>GRAND TOTAL</b>  | <b>22</b>            | <b>46</b>                  | <b>0</b>                   | <b>0</b>                    | <b>188</b>                     | <b>0</b>                    | <b>0</b>                      | <b>0</b>                     | <b>0</b>                       | <b>0</b>                    | <b>0</b>                   | <b>0</b>                    | <b>6</b>               | <b>262</b>                  | <b>\$68,140</b>            |