



Invitation for Bid No. 2024-089

Crooked Creek WRF UV Disinfection

ADDENDUM No. 2 **ISSUE DATE: July 11, 2024**

Responding Offerors on this project are hereby notified that this Addendum shall be made a part of the above named IFB document.

The following items add to, modify, and/or clarify the IFB documents and shall have the full force and effect of the original Documents. This Addendum shall be acknowledged by the Offeror in the IFB document.

ADDENDUM NO. 2 TO CONTRACT DOCUMENTS

Date: July 11, 2024
Project: Crooked Creek WRF UV Disinfection Replacement
Owner: Union County Water
Engineer: Hazen and Sawyer

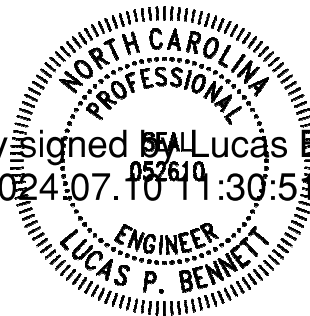
To All Bidders:

Contractors submitting Proposals for the above-named Project shall take note of the following changes, additions, deletions, clarifications, etc., in the Contract Documents, which shall become part of and have precedence over anything contrarily shown or described in the Contract Documents, and all such shall be taken into consideration and be included in the Contractor's Bid Proposal.

All other general items, conditions, drawings, and specifications shall remain the same. Please acknowledge the receipt of Addendum No. 2.

Refer to the Attached Sheets.

Digitally signed by Lucas P. Bennett
Date: 2024.07.10 11:30:51 -04'00'



Lucas P. Bennett, P.E.

HAZEN AND SAWYER

Crooked Creek WRF UV Disinfection Replacement

Addendum No. 2

SCOPE:

This addendum covers changes to the Contract Documents as described below.

QUESTIONS & ANSWERS:

<u>QUESTION</u>	<u>ANSWER</u>
<p>Reference Agreement Article 4.03.A, which states that LD's are for expenses associated with "delay but not as a penalty". Liquidated Damages are \$1,200 for Substantial Completion and \$500 for Final Completion but these LD's are not additive and will not be imposed concurrently. Article 4.043.B discusses that "In addition to liquidated damages" reimbursement for fees and costs incurred for engineering, construction observation, inspection, and administrative periods. These Special Damages do not include a monetary limit associated with them. Bonding Company's do not like to see such open-ended language and often request that a monetary limit/cap be placed on these Damages.</p> <p>a. The costs associated with these additional damages appear to be standard actions that should be covered by LD's as LD's are not intended to be a penalty but to be used to cover cost associated with late completion. I request this portion of the additional damages article 4.03.B be removed and these items be paid for by the use of LD's.</p> <p>b. Is the Owner or Engineer aware of any fines and penalties that will need to be paid as Special Damages? Is the Owner currently paying any fines or penalties associated with the operation of the plant?</p> <p>c. I request that a monetary limit/cap be added to these additional damages associated with fines and penalties.</p>	<p>It is anticipated that any additional damages as referenced in article 4.03.B would indeed be covered by the liquidated damages stated in article 4.03.A, barring unusual circumstances. Furthermore, we are not award of any fines and penalties that will need to be paid as Special Damages.</p>

Referencing General Conditions 6.08.A, please clarify if any temporary building permits will be paid for by the owner or will they be waived.	Building permits will be paid via the "Union County Building Code Enforcement Permit Fee Allowance stated and included in the Bid Form.
Referencing GC-13.03, please clarify if the owner is to pay for all inspections and field tests, soil compaction, concrete samples, etc., u.n.o.	Such inspections will be performed by the Engineer, and therefore will be paid separate from the General Contractor's contract with the Owner.
Regarding the time allowed for the project, can the Owner/Engineer allow for an administration period at the beginning of the project for the procurement of long lead equipment, electrical components, and ductile iron pipe & fittings.	Union County will allow 60-days added to the contract time. See updated sections C-410 and C-520.
Referencing spec section 01 71 23-1.03.A, please clarify if the full-time jobsite superintendent can act as contractor's on-site field engineer. The same tasks sought after per the specifications are that of our superintendents.	This is acceptable.
Referencing M101 Note 1 and M102, please clarify if the Level Control Weir shall be supplied by the GC using the manufacturer's detail or if the manufacturer (Trojan) is to be supplying this to be priced in the Lump Sum Bid Price, M102 contradicts that of M101 Note 1.	M101, Note 1 is correct: The level control weir shall be supplied by the GC using the manufacturer's detail. Drawing 102 is amended herein.

SPECIFICATIONS:

SECTION C-410 – BID FORM

Replace section in its entirety with the attached section.

SECTION C-520 – AGREEMENT

Replace section in its entirety with the attached section.

SECTION 05 12 00 – STRUCTURAL STEEL

Subsections 1.05.B.1, 1.05.B.3 and 1.05.C shall be deleted in their entirety.

SECTION 09 90 00 – PAINTING

Table 1: Painting Schedule: Add the following note 2:

"2. Pre-Engineered Building may be supplied galvanized in lieu of being supplied with specified coating system."

SECTION 13 34 19 – METAL BUILDINGS

Subsections 1.06.C shall be deleted in its entirety.

DRAWINGS:

DRAWING C5

Scale at bottom right should read: 1" = 10'

DRAWING C6

Scale at bottom right should read: 1" = 10'

Replace the text "Concrete Yard Steps [S-03-0506]" with "Mass Concrete Stair [S-03-0605]"

DRAWING M102

At Level Control Weir, replace the text "(By UV Mfr)" with "(See Note 1, Drawing M101)"

DRAWING M400 – Detail 1

Add the following note:

Weir plate shall be 3/8" thick stainless steel

DRAWING S101

Add the following text at the beginning of note 1:

"All grating shall be aluminum."

Add the following note:

"3. The columns for the pre-engineered metal canopy shall be surface mounted to their respective piers."

DRAWING S102

Add the following note:

"2. Backfill structure with #57 stone up to top of rock. Remaining backfill above rock shall be compacted soil."

DRAWING SD2

S-03-0204: In notes 1 and 2, change "12 inches" to "10 inches".

CLARIFICATIONS, ETC:

1. A sole source equipment proposal for Trojan UV Signa equipment is included as Attachment #3.
2. EJCDC form C-451 Qualifications Statement is not a requirement of the IFB #2024-089 Crooked Creek WRF UV Disinfection Replacement Project.

ATTACHMENTS:

- Attachment #1: C-410 – Bid Form
- Attachment #2: C-520 – Agreement
- Attachment #3: Sole Source Equipment Proposal

ATTACHMENT #1

BID FORM
UNION COUNTY WATER
UNION COUNTY, NORTH CAROLINA
CROOKED CREEK WRF UV DISINFECTION REPLACEMENT
UCW PROJECT NO. 2020-07
IFB # 2024-089
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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

**Union County Government Center
Attn: Corey Brooks
500 N. Main Street, Suite 709
Monroe, NC 28112**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Lump Sum Bid Price	\$
---------------------------	----

and

Lump Sum Pre-Negotiated Equipment Prices	
Ultraviolet Disinfection System (46 66 00) (weir not included in price)	\$ <u>401,467.75</u>

and

Allowance Items	
Lump Sum Contingency Allowance	\$ <u>100,000.00</u>
Union County Building Code Enforcement Permit Fee Allowance	\$ <u>10,000.00</u>

Total of All Line Items = Total Bid Price \$ _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete within **330** calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **360** calendar days after the date when the Contract Times commence to run.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. List of Project References;

- E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
- F. Contractor's License No.: ;
- G. Required Bidder Qualification Statement with supporting data

CERTIFIED LIST OF PROPOSED MANUFACTURERS/ SUBCONTRACTORS

As part of the procedure for submission of Bids on this project, Bidder submits the following lists of Subcontractors and Suppliers to be used in the performance of work to be done on said Project. The lists furnished shall be based on requirements of the Contract Documents. Changes to this list after the Bid opening shall only be as approved by the Owner upon request by the Contractor or as required by the Owner based upon review of Contractor's submittals.

CATEGORY	SUBCONTRACTOR
Electrical	
HVAC / Mechanical	
Plumbing	

SCHEDULE OF SUPPLIERS

The following **Major Equipment & Supplier Table** designates items which shall be identified by the Bidder upon submittal of Bid.

1. The Bidder must circle one (1) named supplier for each item listed in the table. The named supplier circled for each equipment item will identify whose equipment is included in the Bidder's Lump Sum Bid Price and whose equipment will be supplied by the Bidder during construction. If no supplier is circled for any equipment item, the Owner will choose the named manufacturer whose equipment will be supplied by the Bidder at no adjustment of the Bidder's Lump Sum Bid Price.
2. Owner acceptance of equipment supplied by a named manufacturer or supplier does not constitute a waiver of the Specifications.
3. Equipment by a manufacturer or supplier not named in the referenced equipment specification will be considered for equivalence to the Acceptable Manufacturer(s) listed in the referenced equipment specification **during the bid period only** in accordance with Article 11 of the Instructions to Bidders. A non-named manufacturer shall demonstrate full compliance with the specifications in all aspects including form, features, construction materials, O&M cost, mechanical and control functionality, performance reliability, quality, and general configuration. To be considered, non-named manufacturers shall submit the following information to the Engineer and Owner within the time allowed in accordance with Article 11 of the Instructions to Bidders:
 - a. Dimensional and weight information on components and assemblies.
 - b. A list of any requested exceptions to the Contract Documents.
 - c. Catalog information and cuts.
 - d. Manufacturer's specifications, including materials description.
 - e. Performance data as applicable.
 - f. Field interface requirements for each component, such as, but not limited to water and drain connections, electricity (field wiring requirements), air supply connections, ventilation, etc.
 - g. Horsepower of all motors supplied.
 - h. Functional descriptions of any packaged instrumentation and control systems.
 - i. List of parameters monitored, controlled, or alarmed.
 - j. Addresses and phone numbers of nearest service center and a listing of the manufacturer's or supplier's services available at this location.
 - k. Addresses and phone numbers for the nearest parts warehouse capable of providing full parts replacement and/or repair service.
 - l. A list of the manufacturer's five (5) most recent domestic (USA) installations with similar size equipment in service. Include contact name, telephone number, mailing address, and names of Engineer, Owner, and installing Contractor.
 - m. Description of structural, electrical, mechanical, and all other changes or modifications necessary to adapt the equipment or system to the arrangement shown and/or functions described in the Specifications and/or Drawings.
 - n. Any additional specific requirements listed in the referenced equipment specification.
4. Failure to include all listed information with the submittal shall result in a determination that the non-named equipment manufacturer is not considered "or equal" and, therefore, not acceptable.

5. The Engineer and Owner will determine if the non-named manufacturer's equipment will be added as a named manufacturer ("or equal") in the referenced equipment specification. Final determination is at the sole discretion of the Engineer and Owner, and will occur prior to the Bid opening. There will be no process to appeal this determination.
6. If the Engineer and Owner determine that any non-named manufacturer is considered equivalent ("or-equal") to the named manufacturer(s), the referenced equipment specification will be revised by Addendum to include additional named manufacturers. However, addition of a manufacturer by addendum shall not relieve the Bidder of full responsibility for any facility redesign or other costs required to install the equipment. The manufacturer/ supplier and Bidder shall comply with the following during construction:
 - a. Manufacturer/Supplier shall include in his quote to potential Bidders all additional construction costs (mechanical, architectural, structural, electrical, and engineering redesign costs) associated with the proposed equipment. The Bid shall also include all paid licenses necessary for the use of the proposed equipment, if required by the manufacturer.
 - b. Any redesign associated with the proposed equipment shall be prepared by the Engineer. Reimbursement for engineering redesign shall be based on the Engineer's raw salary costs times a multiplier of 3.15 plus any direct, non-labor expenses such as travel, per diem, or reproduction services. The Owner will bill the Contractor monthly based on the Engineer's invoice to the Owner. The Contractor shall reimburse the Owner, who will in turn reimburse the Engineer, within 30 days of receipt of the Owner's billing. Non-payment within 30 days shall constitute grounds for the Owner to withhold partial payment to Contractor.
 - c. Bidder agrees that delays caused by redesign necessary for the proposed equipment shall not constitute grounds for a contract modification, change order, claim, or contract time extension.
7. The Major Equipment Table is provided with blank spaces for an "or equal" equipment item approved by the Engineer and named via addendum during the Bid period, in accordance with Article 11 of the Instructions to Bidders.

Major Equipment Table

(Circle Only One Supplier / Manufacturer Named in the Reference Specification Section)

Specification	Equipment	Manufacturer to be Provided
26 29 23	Electrical Equipment	<ul style="list-style-type: none"> • Schneider Electric (Square-D) • Rockwell (Allen-Bradley) • Toshiba • _____
40 61 13	I&C System Subcontractor	<ul style="list-style-type: none"> • CITI • MR Systems • Revere • RoviSys • _____
46 66 00	Ultraviolet Disinfection Equipment	<ul style="list-style-type: none"> • Trojan • _____

DEFINED TERMS

7.02 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 8 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____
(where applicable)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

ATTACHMENT #2

**SUGGESTED FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between _____ UNION COUNTY _____ (“Owner”) and

_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Construction of a new Ultraviolet Disinfection Facility with one (1) concrete channel, three (3) UV Banks, three (3) Power Distributions Centers, overhead canopy, and other electrical and mechanical equipment; demolition of the existing UV Facility equipment, chlorine contact tank, Manhole No. 9, and the abandoned Cascade Aerator; miscellaneous yard piping and manholes; other new electrical equipment, wire, conduit, etc.; minor site civil work including excavation and E&SC. All other discipline work shown on the drawings.

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The project consists of a Single Prime Contract for furnishing all materials and labor for upgrades to the Crooked Creek WRF.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by **Hazen and Sawyer**, (Engineer), which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion and Final Payment*

- A. The Work will be substantially completed within **330** days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **360** days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal ~~or arbitration~~ proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$1,200.00** for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$500.00** for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.
- B. **In addition to liquidated damages, Contractor shall reimburse Owner all fees and costs paid to or incurred by Engineer in administering the construction of the Project beyond the time specified in Paragraph 4.02 above for Substantial Completion. All fees and costs may be deducted from monies due Contractor for the performance of the Work.**

ARTICLE 5 – CONTRACT PRICE

- 5.02 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A, 5.01.B, and 5.01.C below:

- A. For all Work other than Unit Price Work, a lump sum of: \$ _____

All specific cash allowances are included in the above price in accordance with Paragraph 11.02 of the General Conditions.

- B. (Not used)

- C. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions. **Owner shall make payments within thirty (30) days after presentation of the Application for Payment to Owner by Engineer with Engineer’s recommendation for payment.**

6.02 *Progress Payments; Retainage*

- A. Owner shall make **monthly** progress payments on account of the Contract Price on the basis of Contractor’s Applications for Payment ~~on or about the _____ day of each month~~ during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.
- a. **95%** percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
- b. **95%** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **100%** percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less **200%** percent of Engineer’s estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of **4%** percent per annum.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor’s safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

- I. The Contract Documents are **generally** sufficient to indicate and convey **an** understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 8, inclusive).
2. Performance bond (pages 1 to 3, inclusive).
3. Payment bond (pages 1 to 3, inclusive).
4. Other bonds (pages _____ to _____, inclusive).
 - a. _____ (pages _____ to _____, inclusive).
 - b. _____ (pages _____ to _____, inclusive).
 - c. _____ (pages _____ to _____, inclusive).
5. General Conditions (pages 1 to 68, inclusive).
6. Supplementary Conditions (pages 1 to 6, inclusive).
7. Technical specifications as listed in the table of contents of the Project Manual.
8. Drawings consisting of 44 sheets with each sheet bearing the following general title: Crooked Creek WRF UV Disinfection Replacement Project. **Drawings are separately bound and therefore not attached to this Agreement.**
9. Addenda (numbers to , inclusive).
10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages to , inclusive).
 - b. Documentation submitted by Contractor prior to Notice of Award (pages _____ to _____, inclusive).
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages 1 to 2, inclusive).
 - b. Work Change Directives.
 - c. Change Orders.

12. The following Minority Participation Documents:

- a. Guidelines for Recruitment and Selection of Minority Businesses for Participation in Union County Construction Contracts.
 - b. Identification of Minority Business Participation form.
 - c. Affidavits A, B, C, D, and Appendix E, as appropriate.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

UNION COUNTY _____

By: _____

By: _____

Title: County Manager

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

500 N. Main Street

Suite 600

Monroe, NC 28112

License No.: _____

(Where applicable)

Agent for service of process:

ATTACHMENT #3



**SCOPE OF SUPPLY FOR UNION COUNTY - CROOKED CREEK WWTP, NORTH CAROLINA
ULTRAVIOLET DISINFECTION EQUIPMENT – TROJANUVSigna™**

Prepared for: Hazen & Sayer

Specification Section: 46 66 00 10/25/23

Trojan Quote: 238938 (March 1, 2024)

Design Criteria:

Current Peak Design Flow:	5 MGD
Average Flow:	2 MGD
UV Transmission:	60%, minimum
Total Suspended Solids:	10 mg/L (Maximum, grab sample)
Minimum Dose:	30 mJ/cm ² , MS2 RED
Discharge Limit:	200 Fecal Coliform/100 mL (30 Day Geometric Mean) 400 Fecal Coliform/100 mL (7 Day Geometric Mean)

We are pleased to submit the following scope of equipment based on the above criteria.

The purchaser is responsible for reading all information contained in this Supply Contract. Trojan will not be held accountable for the supply of equipment not specifically detailed in this document. Detailed installation instructions are provided with the shop drawings and are available earlier upon request. Changes to this Scope of Supply that affect selling price will be handled through a change order.

Please refer inquiries to Trojan Manufacturer’s Representative:

Representative: Shane Eckley
EW2 Environmental, Inc.
Phone: 704-542-2444
Email: seckley@ew2.net

This proposal has been respectfully submitted by,
Trojan Technologies

Regional Manager
Michael Shortt

GENERAL CONFIGURATION

The TrojanUVSigna equipment described in this Scope of Supply consists of two (2) duty and one (1) redundant UV banks for one (1) UV channel.

Unless otherwise indicated in this proposal all anchor bolts, conduit, conductors, local disconnects and transformers (if required) are the responsibility of the Installation Contractor and are not included in Trojan’s Scope of Supply. Specific cable types listed below are for reference only. Selecting cables that are appropriate for the installation environmental conditions and in compliance with local code is the responsibility of the Installation Contractor.

Site to provide approved (engineered) anchor points for personnel to use as part of their fall restraint system around open channels. The anchor points must be positioned so that the preferred retractable lifeline of 8 ft is of sufficient length to access the work at the channel. Refer to local safety regulation.

UV BANKS

Trojan’s Responsibility:

Each bank supplied will consist of TrojanUV Solo Lamps™, quartz sleeves, supporting structures, ActiClean™ chemical/mechanical cleaning system and an automatic bank lifting mechanism. UV lamps are powered from an individual electric feed from a lamp driver located in a Power Distribution Center (PDC).

Model and Make:	TrojanUVSigna™
Quantity:	Three (3) UV Banks Each bank will be supplied with eight (8) UV lamps and quartz sleeves, one (1) UV intensity sensor, one (1) ActiClean chemical-mechanical wiping system and one (1) automatic bank lifting mechanism
Rating:	Type 6P / IP68 (lamp sleeve assemblies)
Approximate Weight:	370 lbs per UV bank

Installation Contractor’s Responsibility:

The Installation Contractor shall install, align, secure, and seal (grout) each UV bank frame in the channel per the instructions provided. The Installation Contractor shall provide solid grating downstream of the UV bank to block out UV light. Please refer to the supplied Trojan-supplied drawings for details.

SYSTEM CONTROL CENTER

Trojan’s Responsibility:

A System Control Center (SCC) shall be supplied to monitor and control the UV disinfection System. Trojan will provide a PLC I/O and soft address map to aid the Installation Contractor with integration of the UV PLC and SCADA system.

Note: if Trojan is required to provide a managed switch in the SCC, the Plant’s IT department or System Integrator will be responsible for configuring the switch to meet the Plant’s security and traffic routing requirements.

The UV SCC shall consist of the following:

Quantity Supplied:	One (1) SCC
Location:	Floor Mounted
Controller Type:	AB CompactLogix
Operator Interface:	15” Beijer HMI (Outdoor 4X Rated)
Material / Rating:	304 Stainless Steel (Type 4X, IP 66)
Approximate Weight:	700 lbs
SCADA:	EtherNet/IP
Surge Protection:	Trojan standard TVSS
Panel UPS:	15 minutes via 24 VDC

Installation Contractor's Responsibility:

The Installation Contractor is responsible for mounting the SCC as indicated on the drawings. Unless otherwise indicated, the Installation Contractor is also responsible for the supply, installation and connection of the following at the SCC:

1. One (1) 120V, 60 Hz, 1 Phase, 2 Wire + GND, 1.8kVA (maximum) power feed
2. One (1) bond link to plant ground, in accordance with applicable codes and standards
3. One (1) Modbus communication link, Belden 3106A (or equivalent), to PDCs and HSC
4. One (1) Cat 5e Ethernet communication link to SCADA
5. One (1) 4-20 mA analog shielded twisted pair from plant flow meter
6. One (1) 4-20 mA analog shielded twisted pair from online UV Transmittance monitor
7. One (1) discrete, 2 conductor cable from each Level Sensor Control Boxes for high water level signal

POWER DISTRIBUTION CENTERS

Trojan's Responsibility:

The Power Distribution Center (PDC) distributes power to the UV lamps and shall consist of the following:

Quantity Supplied:	Three (3) Single-wide PDCs (one per UV bank)
Method of Cooling:	Air-conditioning (including heater)
Material / Rating:	304 Stainless Steel (Type 4X, IP 66)
Approximate Weight:	1213 lbs each
Surge Protection:	Trojan standard TVSS

Installation Contractor's Responsibility:

The Installation Contractor is responsible for setting in place and bolting the PDC in location. The Installation Contractor is also responsible for the supply, installation and connection of the following at each PDC:

1. One (1) 480 / 277V, 60 Hz, 3 phase, 4 wire + GND, 10.5 kVA power feed with local disconnect
2. One (1) bond link to plant ground in accordance with applicable codes and standards (to underside of panel)
3. One (1) bond link from each UV bank to the corresponding PDC in accordance with the applicable drawings, specifications, codes, and standards
4. One (1) bank-in-place sensor cable (by Trojan) from each UV bank to its corresponding PDC
5. One (1) UV intensity sensor cable (by Trojan) from each UV bank to its corresponding PDC
6. One (1) Modbus communication link, Belden 3106A (or equivalent), from the SCC
7. One (1) discrete, 2 conductor cable from each Level Sensor Control Box for Low Water Level signal
8. Installation and termination of lamp cables from the UV banks to the PDC. (Qty: 8 per UV Bank – supplied by Trojan)

HYDRAULIC SYSTEM CENTER

Trojan's Responsibility:

The Hydraulic System Center (HSC) houses the ancillary equipment required to operate the quartz sleeve cleaning system and automatic bank lifting mechanism.

Quantity Supplied:	One (1) HSC
Materials / Rating:	304 Stainless Steel (Type 4X, IP 66)
Hydraulic Fluid:	Mineral Oil
Approximate Weight:	500 lbs
Surge Protection:	Trojan standard TVSS

Installation Contractor's Responsibility:

The Installation Contractor is responsible for setting in place and bolting the HSC as shown on the Trojan drawings. The Installation Contractor is responsible for the supply, connection and installation of the following at the HSC:

1. One (1) 480V, 60Hz, 3 phase, 3 wire + GND, 2.5 kVA power feed with local disconnect
2. One (1) bond link to plant ground, in accordance with applicable codes and standards
3. One (1) Modbus communication link, Belden 3106A (or equivalent), from the SCC
4. Cut and crimp hydraulic hoses (hoses and connections supplied by Trojan)
5. Connection of the hydraulic hoses, total of four (4) per UV bank

WATER LEVEL CONTROLLER

Trojan's Responsibility

A level control device is required to maintain and control the effluent level in the channel, regardless of flow rate. Level controller for this project is outside of Trojan's Scope of Supply and shall be provided by others.

The level controller headloss shall be such that the overall headloss of the UV channel (including UV banks) does not exceed 12".

Installation Contractor's Responsibility:

The Installation Contractor is responsible for setting in place, bolting, grouting and sealing each level control weir trough as per Trojan's and Engineer's drawings.

WATER LEVEL SENSORS

Trojan's Responsibility:

A Low Water Level Sensor is required downstream of the UV System to generate a low water level signal that will shut down and protect the UV System if the water level in the channel drops too low.

Quantity Supplied:	Three (3) electrode type level sensors; two (2) for low water level sensors and one (1) for high water level sensor
Approximate Weight:	10 lbs (panel)

Installation Contractor's Responsibility:

The Installation Contractor is responsible for setting in place and bolting the water level sensor panel to the effluent channel wall as per Trojan's and Engineer's drawings.

LEVEL SENSOR CONTROL BOX

Trojan's Responsibility:

Trojan will provide a wall mounted Level Sensor Control Box (24" x 14" x 6"), to provide power and relays for the Low Level Sensors.

Quantity Supplied:	Two (2) Level Sensor Control Boxes
Materials / Rating:	304 Stainless Steel (Type 4X)
Approximate Weight:	40 lbs each

Installation Contractor's Responsibility:

The Installation Contractor is responsible for mounting the Level Sensor Control Box as indicated on the drawings. Contractor is also responsible for supplying mounting hardware, watertight conduit and for the supply, installation and connection of the following at each Control Box:

1. One (1) 120 Volt, 1 phase, 2 wire + GND, 0.12 kVA power supply
2. One (1) discrete, 2 conductor cable from the Low Level Sensor to its Level Sensor Control Box
3. One (1) discrete, 2 conductor cable from the Level Sensor Control Box to each PDC (for Low Water Level signal)
4. One (1) discrete, 2 conductor cable from each Level Sensor Control Box to the SCC (for high water level signal)
5. One (1) discrete, 2 conductor cable from the High Level Sensor to the corresponding Level Sensor Control Box

UV TRANSMISSION MONITOR

Trojan’s Responsibility:

An on-line UV Transmission Monitor will be supplied to provide a UVT measurement of the source water.

Description:	One (1) Hach UVASsc UVT monitor including: One (1) submersible probe with mounting kit, One (1) sc4500 Controller and 25 ft cable between the probe and the controller
Enclosure Rating:	Type 4X
Controller Dimensions:	12 x 12 x 4 in
Approximate Weight:	30 lbs (includes probe and Controller)
Probe Immersion Depth:	up to 6 ft

Installation Contractor’s Responsibility:

The Installation Contractor is responsible for setting in place and mounting the Controller panel and the probe. The Installation Contractor is also responsible for the supply, installation and connection of the following at the Controller:

1. One (1) 120 Volt, 1 phase, 2 wire + GND, 50 VA power supply
2. One (1) 4-20mA analog shielded twisted pair to the SCC
3. Installation of sensor communication cable (by Trojan) between the probe and Controller
4. Anchor bolts as required for mounting Controller and probe to the channel edge

SPARE PARTS AND ADDITIONAL EQUIPMENT

Trojan’s Responsibility:

The following equipment will be supplied with the UV system:

Description	Quantity
1kW Solo UV Lamp	Three (3)
Quartz Sleeve	Two (2)
Pair of Wiper Seals	Eight (8)
2kW Solo Lamp Driver	One (1)
UV Intensity Sensor	One (1)
Operators Kit	Four (4)
ActiClean WW 4 x 4L (Case)	One (1)
UV Warning Signs	Four (4)
UV Bank proximity switch	One (1)
Lamp Holder Seals	Eight (8)
Canister for Cleaning system	One (1)
304 SST Nameplates	One (1) set

MICROBIOLOGICAL PERFORMANCE TESTING

Trojan’s Responsibility:

Trojan will supply a performance testing protocol to the Installation Contractor to be forwarded to the Engineer for approval. Trojan will produce the final test report (based on data supplied by the independent lab) and will forward the final report to the Installation Contractor.

Installation Contractor’s Responsibility:

The Installation Contractor is to cover all associated onsite costs for performance testing (independent lab services, bottles, shipment, etc.). The Installation Contractor is also responsible for completing the performance testing as per the testing protocol supplied by Trojan and approved by the Engineer for the remainder of the performance testing (as required by the Owner/Engineer).

NOTES AND CLARIFICATIONS TO SPECIFICATION

- Division 40 was not provided for Trojan's review of non-standard feature. As such Trojan System Control Center (SCC) will be based on Trojan standard design and will not comply with any customizations outlined in Div. 40.
- **Section 46 66 00,**
 - **Article 1.1 B** – Cable trays are outside of Trojan Scope of supply and shall be provided by Installation Contractor per article 1.2 B of UV spec section.
 - **Article 1.1 D** – It is Trojan's understanding that the firmware outlined in this paragraph is related to communication boards. Trojan can supply locked PLC and HMI programs so the customer can develop their SCADA interface.
 - **Article 2.2 G** – Module support rack is not a product offering with Signa2Row UV system.
 - **Article 2.3 C.7** – Trojan PDCs will use a discrete temperature sensor within the PDC panel to provide a high temperature warning at 50 deg. C and a high temperature shut down at 55 deg. C.
 - **Article 2.3 E.1 & 2** – Please note that individual lamp and driver faults are represented graphically on the bank overview screen, with a general fault indicating the associated bank has a lamp or driver fault (Bank X Lamp fault, Bank X driver fault).
 - **Article 2.3 E. 8** – Not a product offering. High Ballast/drive temperature alarms cannot be disabled from PLC (in UV SCC enclosure). It is mechanically set at PDC.
 - **Article 2.3 E. 9** – Maximum start-up in-rush current is less than 21A peak.
 - **Article 2.4 F. & G.** – Trojan standard alarms will be provided. Moreover, alarm priorities are not configurable as they're directly tied to the system response for maintaining UV Dose.
 - **Article 2.4 K** – UVI is only available in mW/cm² in Signa2ROW product.

DOCUMENTATION (SHOP DRAWINGS AND O&M MANUALS)

The following documentation will be supplied by Trojan per the following schedule:

- **One (1) electronic copy of Approved Trojan Shop Drawings – to be provided by Trojan to selected General Contractor.**
- One (1) electronic copy of Trojan Standard O&M manuals at time of equipment delivery

DELIVERY, START-UP AND TRAINING

Equipment shipped **29 – 31 weeks after equipment Purchase Order is fully executed.**

Trojan's Responsibility:

The following start-up services will be provided by Trojan-certified technicians:

- Up to one (1) day in one (1) trip for Unloading inspection
- Up to one (1) day in one (1) trip for Installation assistance. Additional days as required to be by phone or fax. Technical Assistance Center 1-866-388-0488 or tac@trojanuv.com
- Start-up and testing of the installed UV equipment.
 - If the Trojan's Certified Service Technician determines the Contractor work is not complete and the start-up cannot be completed in the allotted time a return visit will be scheduled at the Contractors expense.
- Classroom and/or jobsite training for operations staff
 - If trainees are not available a return visit will be scheduled at the Contractors expense.
- Up to one (1) day in one (1) trip for refresher training (3 to 6 months after startup)
- Up to one (1) day in one (1) trip for supervising the Performance Test

Installation Contractor's Responsibility:

The Contractor is responsible for:

- Un loading of the components supplied by Trojan, storage of all components, if required in a clean dry environment including ActiClean™ Gel. Note the ActiClean gel must be stored in a climate-controlled area to prevent freezing.
- Installing the equipment outlined in the scope of Supply in accordance with contract drawings, Trojan's shop drawings, instructions and installation checklists.
- Supplying all conduits and conductors and components per the sites state regulations and components indicated as supplied by others.
- Completing and submitting the Checklist at least two (2) weeks prior to date requested for commissioning.
- Trojan panels with forced-air cooling design require installation in an environmentally controlled room suitable for electrical distribution or motor drive equipment.

WARRANTY

Trojan will warrant the equipment and parts for 24 months after start-up or 30 months after shipment, whichever comes first. Warranty does not cover labor or consumables. Refer to attached Terms and Conditions for additional details.

- UV lamps shall be warranted for 15,000 hours. (std proration removed)
- Lamp drivers shall be warranted for 10 years. (std proration removed)
- UV intensity sensors shall be warranted for 5 years.
- Quartz sleeves shall be warranted for 10 years.

SELLING PRICE

\$ 401,467.75 USD Price valid until December 31, 2024

- Selling price does not include any duties or taxes that may be applicable.
- Freight included if destination is within North America.
- Incoterms 2020: Ex Works (EXW) or Cost, Insurance and Freight (CIF) to destination or port will apply for all other destinations.

PAYMENT TERMS & INVOICING MILESTONES

Net 30 Days

- **90%** of PO Price upon Equipment Delivery to job site
- **5%** of PO Price upon Equipment Installation or 90 days after Delivery (whichever occurs first)
- **5%** of PO Price upon Equipment Acceptance

If UV System Start-up is required within 30 days of shipment, Trojan requires 95% payment unless agreed upon in writing before authorizing system Start-up.

TERMS & CONDITIONS

Trojan appreciates the opportunity to submit this proposal. Our proposal is submitted subject to and based on Trojan Our proposal is submitted subject to and based on Trojan's standard terms and conditions, which we have attached as part of our proposal.