

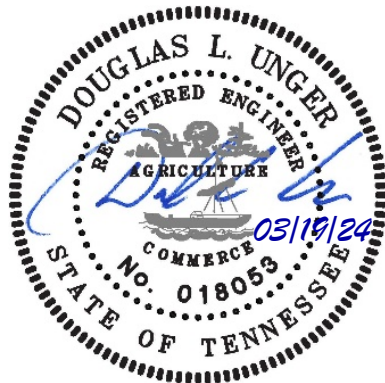
PROJECT MANUAL
for

2024 – AUB WATER SYSTEM IMPROVEMENTS

DRINKING WATER TEST WELLS

AUB - WATER DIVISION

ATHENS, TN



Owner:

Athens Utilities Board
100 Englewood Road
Athens, Tennessee 37303
Tel. No.: (423) 745-4501

AUB Work Order No. 01-03-534

Engineer:

Athens Utilities Board
Engineering Department

Date: **March 19, 2024**

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE NO.</u>
<u>DIVISION 00</u>	<u>PROCUREMENT AND CONTRACT REQUIREMENTS</u>	
00 11 13	ADVERTISEMENT FOR BIDS	1-1
00 21 13	INSTRUCTIONS TO BIDDERS	1-6
00 42 43	BID FORM	1-6
00 45 19	NON-COLLUSION AFFIDAVIT	1-1
00 45 19	DRUG FREE WORK PLACE AFFIDAVIT	1-1
00 52 13	AGREEMENT	1-6
00 57 16	DEFINITIONS	1-4
<u>DIVISION 01</u>	<u>GENERAL REQUIREMENTS</u>	
01 11 00	SUMMARY OF WORK	1-2
01 22 00	MEASUREMENT AND PAYMENT	1-1
01 33 33	SUBMITTAL PROCEDURE	1-1
01 51 00	TEMPORARY FACILITIES	1-2
<u>DIVISION 32</u>	<u>UTILITIES</u>	
32 21 00	TEST WELLS	1-7
	<u>FIGURES</u>	
01	FRACTURE TRACE - GEOLOGIC MAP	1-1
02	FRACTURE TRACE - AERIAL MAP	1-1
03	FRACTURE TRACE – USGS TOPO MAP	1-1

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

2024 – AUB WATER TEST WELLS

Athens Utilities Board, Athens, TN, is requesting Bids for the construction of drinking water test wells.

Bids for the Project will be received at AUB's main office located at 100 New Englewood Road, until **April 9, 2024 at 10:00 AM**, local time, where the Bids received will be publicly opened and read.

The Work consists of furnishing all labor, materials, tools, equipment and incidentals necessary for construction for an 8-inch test well using a Dual Rotary drilling rig. The test well may include installation of approximately 50 L.F. of 12-inch surface casing and up to approximately 150 L.F. of 8-inch diameter steel casing, with, air development, bentonite grouting, disinfection, performance test pumping & flow measurement, sampling, and related incidentals. The Work may include construction of additional 8-inch test wells at the unit prices bid, if authorized.

The Project described by this contract does not include construction of permanent, production well(s).

No pre-bid meeting will be held and there are no requirements for Bid Security.

Electronic copies of the Bidding Documents for bidding purposes are in PDF format and will be emailed upon request at no charge.

Bidding contact: Craig Brymer, cbrymer@aub.org;

All Bidders must register with AUB as a plan holder. AUB will not be responsible for Bidding Documents, including addenda, if any, obtained from sources other than AUB.

- No bidder may withdraw his bid within 60 days after the actual date of the opening.
- All bidders must be licensed Contractors pursuant to the laws of the State of Tennessee, as amended, and qualified for the type of construction being bid upon.

For further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

The Owner reserves the right to waive any informalities or to reject any or all bids.

Athens Utilities Board does not discriminate based on race, color or national origin in federal or state sponsored programs, pursuant to Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d).

Eric Newberry
General Manager
March 19, 2024

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS:

Terms used in these Instructions to Bidders have the meanings indicated in Specification Section 00 57 16 - DEFINITIONS.

2. COPIES OF BIDDING DOCUMENTS:

Complete sets of the Bidding Documents stated in the Advertisement for Bid shall be obtained from the Athens Utilities Board (AUB) by bona fide Bidders or Suppliers only. Complete sets of Bidding Documents shall be used in preparing Bids. AUB assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

AUB as the Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for copying or for any other use of said documents. All such documents are copyrighted by, and remain the property of, AUB and shall not be copied or used for any other purpose.

3. QUALIFICATIONS OF BIDDERS:

Bidders shall submit, with their Bid, a fully completed Bidder Qualification Form to demonstrate Bidder's qualifications to perform the Work. Within five (5) days of Owner's request, Bidder shall submit additional written evidence of qualification as may be required, such as financial data, a detailed breakdown of the Bid, details of previous experience, equipment, resumes of personnel, and business references.

Each Bid must include evidence of Bidder's qualification to do business in the State of Tennessee. Out-of-state Bidders must submit a copy of their current authority to transact business in Tennessee as issued by the State of Tennessee.

4. EXAMINATION OF BIDDING DOCUMENTS, RELATED DATA, AND SITE:

It is the responsibility of each Bidder before submitting a Bid to:

- a. Examine and carefully study the Bidding Documents and other related data and reports identified in the Bidding Documents;
- b. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- c. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations (including requirements of state and federal agencies, if any, which are providing funds to the Owner for the Project) that may affect cost, progress, and performance of the Work;
- d. Carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site, drawings of physical conditions relating to the Site, and report or drawings of Hazardous Environmental Conditions, if any, at the site.

Upon request, AUB will provide Bidders access to the Site to conduct such examinations, reasonable investigations, explorations, and tests as Bidder deems necessary for submission of a Bid. Bidders shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given AUB written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by AUB are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

5. PRE-BID CONFERENCE:

There will be no Pre-Bid Conference.

6. SITE AND OTHER AREAS:

The Site (lands, easements, and/or rights-of-way upon which the Work is to be performed) is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by AUB unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work shall be obtained and paid for by the Contractor.

7. INTERPRETATIONS AND ADDENDA:

All questions about the meaning or intent of the Bidding Documents are to be submitted to AUB in writing. Replies considered necessary by the AUB will be issued by Addenda mailed or faxed to all parties recorded on AUB's Bidder's List as having received the Bidding Documents. Questions received less than three (3) working days prior to the date for opening of Bids may not be answered. No response will be given within 48 hours prior to the bid opening time. Only those questions answered by written Addenda, issued by AUB, will be binding. Oral and other interpretations or clarifications will be without legal effect. Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by AUB.

8. BID SECURITY:

There is no Bid Security required for the Bid.

9. CONTRACT TIMES AND LIQUIDATED DAMAGES:

The times for Substantial Completion and readiness for final payment are to be set forth by Bidder in the Bid and will be entered into the Agreement. The times will be taken into consideration by AUB during evaluation of the Bids, and it will be necessary for the apparent Successful Bidder to satisfy AUB that it will be able to achieve Substantial Completion and be ready for final payment within the times designated in the Bid.

Provisions for Liquidated Damages, if applicable, are set forth in the Agreement.

10. AFFIDAVITS REQUIRED WITH BID:

Bidders shall submit properly executed affidavits or certifications with the Bid, as listed by Article 7 of the Bid Form, or otherwise required by law. Bids which do not include all required affidavits, properly and fully executed, will be rejected and not read. The required submittals include the following:

- a. Non-Collusion Affidavit: Written oaths by all partners, officers, agents, or other persons who may have acted for or represented the Bidder for bidding or procuring the contract stating that they have not directly or indirectly violated this section of the T.C.A.
- b. Drug Free Workplace Affidavit: Written oaths by all partners, officers certifying they maintain a drug free workplace under the T.C.A. rules.

11. SUBSTITUTE AND "OR-EQUAL" ITEMS:

The Contract, if awarded, will be on the basis of material, equipment, and suppliers specified or described in the Bidding Document without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item may be offered, an application for acceptance will not be considered by AUB until after the Effective Date of the Agreement.

Wherever one or more suppliers, manufacturers, or materials are identified in the Bidding Documents as acceptable, the Bid shall be based on one of these named suppliers or manufacturers. If a space is provided on the Bid Form for naming a subcontractor, supplier, manufacturer, or material, that space must be filled in by the Bidder and the selection shall be binding.

12. SUBCONTRACTORS, SUPPLIERS, AND OTHERS:

Bidders shall list any Subcontractor proposed to perform 15% or more of the Work, except that the total value of all subcontracted work shall not exceed 49% of the Bid amount. The apparent Successful Bidder, and any other Bidder so requested, shall within five (5) days after Bid opening, submit to AUB a list of all Subcontractors, Suppliers, individuals, or entities proposed for the Work. If AUB, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, AUB may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute. If apparent Successful Bidder declines to make any such substitution, AUB may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities.

Contractor shall not be required to employ any Subcontractor, supplier, other individual or entity against whom Contractor has reasonable objection.

13. PREPARATION OF BID:

All blanks on the Bid Form must be completed in ink and the Bid must be signed in ink. Bids must be submitted on the Bid Form obtained from AUB. Each signature must have full name printed in ink below signature.

A Bid by a corporation shall be executed in the exact corporate name by a corporate officer authorized to sign (accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporation's address and state of incorporation shall be shown.

A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign.

A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign.

A Bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form.

The Bid shall contain acknowledgment of receipt of all Addenda (the numbers of which shall be stated on the Bid Form).

14. BASIS OF BID; COMPARISON OF BIDS:

- a. Lump Sum: Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate. In the comparison of Bids, alternates will be applied in the same order as listed in the Bid form.
- b. Unit Price: Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- c. Allowances: For cash allowances, if any, the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents.

15. SUBMITTAL OF BID:

Bids will be accepted from only those bona fide contractors listed on AUB's bid list as having obtained Bidding Documents from AUB. Bids submitted by others will not be opened.

Bids shall be submitted by the exact same entity proposing and intending to enter into the Agreement.

Bids shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bid and shall be enclosed in an sealed envelope, plainly marked with the Project title, name and address of the Bidder, Bidder's contractor license number, and shall be accompanied by the other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." Bids submitted by facsimile (fax) or other electronic media will not be considered.

16. MODIFICATION AND WITHDRAWAL OF BID:

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the date and time for opening of Bids. Modification to the Base Bid Total via email will be considered, provided the email provides a single value to be added to or deleted from the total, and the email arrives prior to the bid opening.

If within 24 hours after Bids are opened any Bidder files a duly signed written notice with AUB and promptly demonstrates to the reasonable satisfaction of AUB that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security, if any, will be returned.

Thereafter if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

17. OPENING OF BIDS:

Bids will be opened at the time and place indicated in the Advertisement for Bid and, unless obviously non-responsive, read aloud publicly. A preliminary listing of the amounts of the base Bids and major alternates (if any) will be made available to Bidders within a reasonable time after the opening of Bids.

18. BIDS TO REMAIN SUBJECT TO ACCEPTANCE:

Unless otherwise stated, all Bids remain open for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security, if any, prior to the end of this period.

19. EVALUATION OF BIDS AND AWARD OF CONTRACT:

AUB reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. AUB further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if AUB believes that it would not be in the best interest of the Project to make an award to that Bidder. AUB also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

In evaluating Bids, AUB will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

In evaluating Bidders, AUB will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions. Life-cycle costs, operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner in making an award.

AUB may conduct such investigations as AUB deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

Discrepancies between words and figures on the Bid Form will be resolved in favor of words. Discrepancies between the indicated product of any unit price times a bid quantity and the correct product thereof will be resolved in favor of the correct product. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

AUB reserves the right to delete or reject any bid item or reduce quantities of unit price items if required to bring the cost within the project budget. Owner reserves the right to increase any unit item quantity at the price bid.

If the Contract is to be awarded, AUB will award the Contract to the responsible and qualified lowest Bidder.

20. CONTRACT SECURITY AND INSURANCE:

Bid Security is not required.

If Contract Security is required, all Surety Bonds shall be provided on the pre-printed forms which are included in the Bidding Documents, unless blank forms of other proposed Surety Bonds are submitted to the Owner's attorney within five (5) days after to the date of Award for review and approval.

Insurance requirements are as set forth in the Agreement.

21. SIGNING OF THE AGREEMENT:

When AUB issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement along with other Contract Documents which are identified in the Agreement as attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall deliver the required number of counterparts of the Agreement and attached documents to the AUB. When all counterparts of the Agreement are fully executed, AUB shall deliver one signed and dated counterpart to the Successful Bidder.

END OF SECTION

SECTION 00 42 43 BID FORM

PROJECT: **DRINKING WATER TEST WELL (AT AUB'S WELL FIELD)**

PROJECT NUMBER: **01-03-534**

ARTICLE 1 – BID RECIPIENT

- 1.1 This Bid is submitted to: **ATHENS UTILITIES BOARD**
100 New Englewood Road
Athens, Tennessee 37303
- 1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with AUB 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

- 2.1 Bidder accepts all of the terms and conditions of the Instructions to Bidders. 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

- 3.1 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

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

- B. Bidder 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. Bidder is familiar with and is satisfied 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 contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site, if any, and (2) reports and drawings of Hazardous Environmental Conditions at the Site, if any.
- E. Bidder has considered the information known to Bidder; 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 the 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, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 3.1.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) 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, if any, that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given AUB written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by AUB is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.1 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.

ARTICLE 5 – BASIS OF BID

5.1 Bidder will complete the Work in accordance with the Contract Documents for the following Unit Prices:

DIVISION I - TEST WELL

<i>Item No.</i>	<i>Description</i>	<i>Est. Quant.</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Extended Value</i>
(1)	Mobilization of Dual Rotary Drilling Rig, Equipment, Materials, and Crew for Initial Test Well Drilling.	1	LS	\$ _____	\$ _____
(2)	Furnishing and Installing Temporary 12-inch steel surface casing in place, if req.	50	LF	\$ _____	\$ _____
(3)	8-inch Dual Rotary Drilling in overburden or broken rock	150	LS	\$ _____	\$ _____
(4)	8-inch Dual Rotary Casing in place	150	LS	\$ _____	\$ _____
(5)	8-inch (nominal) bore below casing in rock to bottom of test well completion	200	LS	\$ _____	\$ _____
(6)	Bentonite Grout seal of annular space required by state including labor	50	BAG	\$ _____	\$ _____
(7)	Labor regarding Air Development of 8-inch Test Well with dual rotary drilling rig,	24	HR	\$ _____	\$ _____
(8)	Demobilization of Drilling Rig, Crew, and Support Equip. from Test Well site(s)	1	LS	\$ _____	\$ _____
(9)	Per Diem for Drilling Crew	14	DAY	\$ _____	\$ _____
(10)	Mobilization of Pumping Equipment, Materials, and Crew for Performance Pumping of Test Well, if required.	1	LS	\$ _____	\$ _____
(11)	Installation & removal of equip. for performance pump testing: incl. furnish., installing, & removing all necessary pumping equip., power sources, flow & level measurement devices for 48 hr. continuous test pumping at production rate or 400 GPM, more if possible.	1	LS	\$ _____	\$ _____
(12)	Development of Test Well with Pump	12	HR	\$ _____	\$ _____

(Division 1 - Test Well Continued)

Item No.	Description	Est. Quant.	Unit	Unit Price	Extended Value
(13)	Performance Pump Testing of Test Well, Yield and Drawdown, including report of testing results. (Pump test data must be submitted with copies of original field sheets and also in digital spreadsheet format).	48	HR	\$ _____	\$ _____
(14)	Recovery Monitoring of Test Well. .	12	HR	\$ _____	\$ _____
(15)	Demobilization of Test Well Performance Pumping Equipment and Crew from Test Well site.	1	LS	\$ _____	\$ _____
(16)	Per Diem for Pump Crew, each day	5	DAY	\$ _____	\$ _____

TOTAL BASE BID, DIVISION I {Items (1) through (16)} \$ _____

DIVISION II – ADDITIONAL WORK ITEMS – Only if required and authorized

Item No.	Description	Est. Quant.	Unit	Unit Price	Extended Value
(17)	Additional Mobilization of Dual Rotary Drilling Rig in Local Area for Additional Test Well(s), if required.	1	EA	\$ _____	\$ _____
(18)	Additional Mobilization of Pumping Equipment, Materials, and Crew for Performance Pumping of Additional Test Well(s), if required.	1	EA	\$ _____	\$ _____
(19)	Abandonment of Test Well, if required, and plugging in accordance with State Law and Regulations.	350	LF	\$ _____	\$ _____
(20)	Standby for rig and crew at AUB request.	PER	HR	\$ _____	

- 5.2 Bidder acknowledges and agrees that Owner has the right to reject or delete any unit price deemed by the OWNER to be unbalanced or excessively high, or excessively low, and that rejection of one or more-unit prices will not invalidate acceptance of this Bid.

- 5.3 Bidder acknowledges and agrees that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, measured, accepted and otherwise determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.1 **DIVISION I:** Bidder agrees that, for each Test Well, the well construction Work will be substantially completed, air developed and ready for performance pumping within _____ calendar days **(not to exceed 60)** after the date when the Contract Times commence to run for the individual test well, and the performance pumping will be completed and ready for final payment within _____ calendar days **(not to exceed 30)** after the date when the performance pumping is authorized.
- 6.2 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.1 The following documents are submitted with and made a condition of this Bid:
- A. Non-Collusion Affidavit;
 - B. Proposed Schedule for Mobilization and Start of Drilling (No. of days after Notice to Proceed);
 - C. Tennessee Well Driller Contractor's License No. _____ ;;
 - D. Evidence of authority to do business in Tennessee;
 - E. Other required submittals and certifications, if any, list each below
- 7.2 Defined Terms: The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the Contract Documents.

ARTICLE 8 – BID SUBMITTAL

8.1 This Bid is submitted on _____, 20____, by:

BIDDER: _____
(Either the Individual Doing Business as, or Partnership Name, or Joint Venture Name, or Corporation Name)

(State of Incorporation, if Corporation, or Name of General Partner, if Partnership)

BY: _____
(Signature of Person Authorized to Sign)

Name & Title: _____
(Typed or Printed Name and Title of Person Authorized to Sign)

Attest: _____
(Corporate Secretary)

(Printed or typed name) (Corporate Seal)

Business Address:

For U.S.

Mail: _____

For

Delivery: _____

Telephone No. _____ Fax No. _____ E-mail

Address: _____

Federal Employer's I.D. (I.R.S.) Number _____Tennessee

Contractor License No. _____

END OF SECTION

SECTION 00 45 19
NON-COLLUSION AFFIDAVIT

STATE OF _____

COUNTY OF _____

I, _____, being first duly sworn, deposes and says that:

They are _____
(Owner, Partner, Officer, Representative or Agent)

of _____, the Bidder that has submitted the attached Bid;

They are fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham Bid;

Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this Affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Athens Utilities Board or any person interested in the proposed Contract; and

The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this Affiant.

BIDDER: _____

By: _____
(name signed)

(name printed or typed)

Title: _____

Date: _____

Subscribed and sworn to me this ____ day of _____, 20____

NOTARY PUBLIC: _____
(name signed)

(name printed or typed)

Commission Expires: _____
(SEAL)

SECTION 00 45 21
DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF _____

COUNTY OF _____

The undersigned, principal officer of _____, an employer of five (5) or more employees contracting with the Athens Utilities Board to provide construction services, hereby states under oath as follows:

1. The undersigned is a principal officer of _____ (hereinafter referred to as the "Company"), and is duly authorized to execute this Affidavit on behalf of the Company.
2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the *Tennessee Code Annotated*.
3. The Company is in compliance with T.C.A. § 50-9-113.

Further affiant saith not.

Principal Officer

STATE OF _____
COUNTY OF _____

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 20____.

Notary Public

My commission expires: _____

(SEAL)

SECTION 00 52 13 AGREEMENT

This AGREEMENT is made the _____ day of _____, 20____,
Between

ATHENS UTILITIES BOARD ("OWNER") and

("CONTRACTOR")

for the purpose of performing the following Work as described in the Project Manual entitled:

DRINKING TEST WELL (AT AUB'S WELL FIELD)
for
ATHENS UTILITIES BOARD
ATHENS, TN
PROJECT NO. 01-03-534
March 19, 2024

In connection with performance of the above-described Work, OWNER and CONTRACTOR agree as follows:

(1) OWNER shall pay CONTRACTOR for performance of the Work on a unit price basis. The total Contract Price, on basis of approximate unit quantities on Contractor's Bid for:
DIVISION I – TEST WELL,

shall be as follows: \$ _____, the "Contract Price".

(2) The Contract Price shall be payable as follows:

- (a) For all Unit Price Work, an amount equal to the total of all extended prices for actual Work completed. The extended price is determined by multiplying the unit price times the actual quantity of that Work item completed.
- (b) Actual quantities of Unit Price Work completed and acceptable will be determined by the Engineer.
- (c) CONTRACTOR will, not more often than monthly, prepare an Application-for-Payment on a form approved by OWNER and submit it to OWNER's representative (Engineer).
- (d) The Owner shall retain **5%** of each progress payment until the Work is substantially complete and final payment is made.
- (e) Engineer will promptly review the Application-for-Payment (or return it to CONTRACTOR for correction) and make payment recommendation to the OWNER.
- (f) OWNER will pay the CONTRACTOR within 20 days after receipt of Engineer's approval of the Application-for-Payment.

(3) OWNER shall make the final payment, including retainage, provided the following conditions have been met:

- (a) The Contract has been fully performed;
- (b) CONTRACTOR has delivered to OWNER, on a form acceptable to OWNER, a complete release of all liens arising out of the Contract, or a bond satisfactory to the OWNER, indemnifying OWNER, its employees and agents against any lien.
- (c) All required submittals, as-built drawings, etc. have been received and approved by OWNER.
- (d) All claims for Liquidated Damages have been paid to the OWNER.

(4) OWNER shall furnish base line surveys, specifications and drawings, and shall issue all instructions to the CONTRACTOR through the Engineer. Engineer will render a written clarification, interpretation, or decision on questions or issues submitted and may initiate a modification to the Contract Documents. Contractor, and its subcontractors and suppliers, shall not have or acquire any title to or ownership rights to any of the Drawings, Specifications, or other documents (including copies or electronic media editions) prepared by Engineer or its consultants.

(5) CONTRACTOR shall supervise and direct the Work using the best skill and attention and shall be solely responsible for all safety and construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work under the Contract. The term "Work" as used in this Agreement includes all labor, materials, and equipment necessary to produce the construction required by this Agreement except materials, if any, specifically identified herein as being supplied by the OWNER.

(5.1) CONTRACTOR shall provide and pay for all labor, materials, equipment, utilities, transportation and other facilities and services necessary for the proper execution and completion of the Work, unless otherwise specifically provided in this Agreement.

(5.2) CONTRACTOR shall not employ on the Work any unfit person or anyone not skilled in the tasks assigned and shall at all times enforce discipline and good order among employees, and shall be totally responsible for all employees and subcontractors used by CONTRACTOR.

(5.3) CONTRACTOR warrants to OWNER that all permanent materials supplied by the CONTRACTOR and equipment incorporated in the Work will be new and unused, unless otherwise specified, and that all Work will be of good quality free from faults and defects and in conformance with the terms of this Agreement. All Work not conforming to these standards will be considered defective.

(5.4) CONTRACTOR shall pay all sales, consumer use and other similar taxes required by law and secure all permits, fees and license necessary for execution of the Work. CONTRACTOR shall give all notices and comply with all laws, ordinances, rules regulations and orders of any public authority bearing on performance of the Work. CONTRACTOR shall notify OWNER if Drawings or Specifications supplied by OWNER are found to be at variance therewith.

(5.5) CONTRACTOR shall be responsible for the acts and omissions of its employees and all subcontractors' supplies, their agents and employees, and all other persons performing any of the Work under a Contract with CONTRACTOR or with someone having a Contract with CONTRACTOR.

(5.6) CONTRACTOR shall keep the premises of the Work free from accumulation of waste materials or rubbish caused by operations at all times and shall remove all waste materials and rubbish, as well as tools, construction equipment, machinery and surplus materials from the construction area upon completion of the Work.

(5.7) Indemnification: To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts they may be liable.

(6) Time limits, if any, stated in the Agreement or in a Notice to Proceed or Work Order are of the essence of the Agreement. CONTRACTOR and OWNER agree that as Liquidated Damages for delay (but not as a penalty). CONTRACTOR shall pay OWNER \$150.00 for each calendar day that expires after the time specified for completion until the Work is completed.

(6.1) If CONTRACTOR is delayed in the progress of the Work by changes ordered in the Work, labor disputes, fire, unusual delay in delivery of OWNER-supplied materials, unavoidable casualties, or cause beyond CONTRACTOR's control, then the Contract Time will be extended by written change order for such reasonable time as OWNER may determine.

(7) SAFETY: CONTRACTOR shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work and shall take all reasonable precautions for or the safety of all employees on the Work and other persons who may be affected thereby, of all the Work and materials and equipment to be incorporated therein, and of other property at the site or adjacent thereto. CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety or protection of persons or property. All damage or loss to any property caused in whole or in part by CONTRACTOR, any subcontractor, or anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable shall be remedied by CONTRACTOR.

(7.1) INSURANCE: Before starting Work, Contractor shall furnish evidence of insurance from companies that are duly licensed or authorized in the jurisdiction in which the Project is located with a minimum AM Best rating of A-VII or better. Contractor shall provide insurance in accordance with the following:

(a) Contractor shall provide coverage for not less than the following amounts, or greater where required by Laws and Regulations:

i	<u>Workers'</u>	
	<u>Compensation</u> : State:	<u>Statutory</u>
	Employer's Liability:	
	Bodily Injury, each Accident	<u>\$1,000,000</u>

ii. <u>Commercial General Liability:</u>	
General Aggregate:	<u>\$2,000,000</u>
Products – Completed Operations Aggregate:	<u>\$2,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	<u>\$1,000,000</u>
iii. <u>Automobile Liability:</u>	
Combined Single Limit of:	<u>\$1,000,000</u>
iv. <u>Excess or Umbrella Liability:</u>	
General Aggregate:	<u>\$5,000,000</u>

- (b) All insurance policies required to be purchased and maintained will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to the insured and additional insured.
- (c) Automobile liability insurance provided by Contractor shall provide coverage against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- (d) Contractor's commercial general liability policy shall be written on a 1996 or later ISO commercial general liability occurrence form and include the following coverages and endorsements:
 - i. Products and completed operations coverage maintained for three years after final payment;
 - ii. Blanket contractual liability coverage to the extent permitted by law;
 - iii. Broad form property damage coverage; and
 - iv. Severability of interest; underground, explosion, and collapse coverage; personal injury coverage.

(8) OWNER may order changes in the Work consisting of additions, deletions or modifications without invalidating the Contract by written change order signed by the OWNER, and the Contract Sum and Contract time will be adjusted accordingly by mutual agreement of the parties.

(9) CONTRACTOR shall correct any Work that fails to conform to the requirements of this Agreement when such failures to conform appear during the progress of the Work and shall remedy any defects due to faulty materials furnished by the CONTRACTOR, equipment or workmanship that appear within a period of one year from the date of substantial completion of this Agreement, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guaranty required by this Agreement. The provisions of this paragraph shall apply to Work done by subcontractors as well as to Work done by direct employees of CONTRACTOR. Payments may be withheld under this Agreement on account of:

- (a) Defective Work not remedied;

- (b) Claims filed;
- (c) Failure of the CONTRACTOR to make payments properly to subcontractors or suppliers or for labor, materials or equipment;
- (d) Unsatisfactory prosecution of the Work by CONTRACTOR.

(9.1) If OWNER fails to make a progress payment within thirty days (30 days) of due date when no default exists on the part of CONTRACTOR, CONTRACTOR may, upon seven (7) day's written notice to OWNER, terminate the Agreement and recover from OWNER payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools and machinery.

(9.2) If CONTRACTOR defaults or neglects to carry out the Work in accordance with the Agreement or fails to perform any provision of the Agreement, OWNER may, after seven (7) day's written notice to CONTRACTOR and without prejudice to any other remedy it may have at law or in equity, make good such deficiencies and deduct the cost thereof from the payment then or thereafter due the CONTRACTOR, or, at its option, terminate the Agreement and take possession of the site and of all materials, equipment, tools and machinery thereon owned by CONTRACTOR and finish the Work by whatever method it may deem expedient. If the unpaid balance of the Contract Sum exceeds the expense of finishing the Work, OWNER will pay the excess to the CONTRACTOR, but if such expense exceeds the unpaid balance, CONTRACTOR will pay the difference to the OWNER.

(10) Guarantee and Correction of Work: The CONTRACTOR shall guarantee all Work to have been accomplished in conformance with the Contract Documents. Neither the final certificate of payment nor any provision of the Contract Documents, nor partial or entire occupancy of use of the Work by the OWNER, shall constitute an acceptance of any part of the Work not done in accordance with the Contract Documents, or relieve the CONTRACTOR of liability of incomplete or faulty materials or workmanship. The CONTRACTOR shall promptly remedy any omission or defect which shall appear within a period of one year from the date of final acceptance, unless a longer period is elsewhere specified. In the event that the CONTRACTOR should fail to make repairs, adjustments, or other remedy that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred.

(11) Venue: The laws of the State of Tennessee shall govern the construction of this Contract. The courts of McMinn County, Tennessee, shall have exclusive jurisdiction to try disputes arising under or by virtue of this Contract.

(12) The following listed documents are incorporated herein by this reference and any default under the terms thereof shall be a default under this Agreement:

- (a) Contractor's Bid, SECTION 00 42 43, 6 pages.
- (b) Non-Collusion Affidavit, 1 page
- (c) Drug Free Workplace Affidavit, 1 page.
- (d) Project Manual with Specifications and Drawings, as listed.
- (e) Exhibits to this Agreement, if any.

(13) This Agreement shall be binding upon and inure to the benefit of the respective successors and assigns of OWNER and CONTRACTOR and supersedes any prior or contemporaneous oral or written representations of the parties hereto with regard to the matters contained herein.

(14) This Agreement may be modified by written modification only, signed by the parties hereto.

(15) The terms and provisions of this Agreement shall constitute the entire agreement by and between OWNER and CONTRACTOR. Should any term and/or provision of this Agreement conflict with any term and/or provision of the Tennessee Code Annotated (T.C.A.) contracting law(s) as amended , the terms and/or provisions of this Agreement shall prevail and control.

IN WITNESS WHEREOF, the parties by and through their respective authorized Officers have executed this Agreement the date and year first above written.

ATHENS UTILITIES BOARD (OWNER)

ATTEST:

By: _____
Signature

By: _____
Signature

Name: Eric T. Newberry, Jr.
Title: General Manager
Address: 100 New Englewood Rd
Athens, TN 37303

Name: Phil Graves.
Title: Board Secretary

(Seal)

(CONTRACTOR)

ATTEST:

By: _____
Signature

By: _____
Signature

Name (typed or printed)

Name (typed or printed)

Title

Title

Address _____

Address _____

(Seal)

SECTION 00 57 16

DEFINITIONS

1. DEFINED TERMS:

Terms used in Contract Documents are defined herein and shall have the meanings assigned to them therein.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement subject to the provisions for Unit Price Work.
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
17. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
18. *Engineer*—Athens Utilities Board staff engineer.
19. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
20. *General Requirements*—Sections of Division 1 of the Specifications.
21. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
22. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
25. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the condition's precedent listed therein, Owner will sign and deliver the Agreement.
26. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
27. *Owner*—The Athens Utilities Board (AUB) with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

28. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
31. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
32. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
33. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

- 41. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
- 42. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
- 43. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements provisions of the Agreement.
- 44. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
- 45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
- 46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
- 47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

END OF SECTION

SECTION 01 11 00 SUMMARY OF WORK

PART 1 - GENERAL

1.1 Project/Work Identification:

- A. The Work consists of furnishing all labor, materials, tools, equipment and incidentals necessary for construction of a test well at AUB's well field, in McMinn County, Tennessee, as described in the Specifications and shown on the Drawings, consisting of furnishing all labor, materials, supplies, equipment and incidentals for one 8-inch test well using a Dual Rotary drilling rig. The test well may include installation of approximately 50 L.F. of 12-inch surface casing and up to approximately 150 L.F. of 8-inch diameter steel casing, with, air development, bentonite grouting, disinfection, performance test pumping & flow measurement, sampling, and related incidentals. The Work may include construction of additional 8-inch test wells in the McMinn County area at the unit prices bid, if authorized.
- B. The Project described by this contract does not include construction of permanent, production well(s).
- C. The consulting hydro-geologist for the Project is Michael H. Cox, P.G., Cox Environmental & Hydrogeologic, LLC, 2129 Brook Highland Ridge, Birmingham, AL 35242.
- D. The Work described by this Project Manual, Project 01-03-534 was prepared by AUB staff engineer with the following Figures prepared by Cox Environmental & Hydrogeologic, LLC.:

<u>Figure No.</u>	<u>Sheet Title</u>
1	Fracture Trace Study – Geologic Map
2	Fracture Trace Study – Aerial Map
3	Fracture Trace Study – USGS Topo Map

- E. The Engineer will not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor, or for safety programs and precautions incidental to the work of the Contractor.
- F. It is the sole responsibility of the Contractor to initiate, maintain and supervise all safety precautions and programs in connection with the Work.

1.2 Project Location: The Work is located on property of AUB, Athens, TN. Access to the well site is at 1975 County Road 378 (Tellico Ave), Athens, TN 37303.

1.3 Funding Source: The Project will be funded by local funds of the AUB Water Division.

1.4 Coordination with Existing Facilities: The Work will require construction on, or in the vicinity of, the public water facilities of AUB. Call Tennessee One Call - 811 prior to starting work.

- 1.5 Permits and Easement Status:
- A. A locally issued Land Disturbance Permit is not applicable.
 - B. The Contractor will be required to submit the proper documentation for installation of the test well to the State of Tennessee Department of Environment and Conversation, Division of Water Resources – Drinking Water Unit.
 - C. There are no known requirements for additional property or easements for the well drilling project on the AUB well field property.
- 1.6 Construction Sequence: Contractor shall perform Work in a sequence to be agreed to at the preconstruction conference, unless otherwise directed.
- 1.7 Site Conditions:
- A. The Owner will provide suitable access road to the test well sites from the county road.
 - B. The Owner will clear and rough grade the test well drilling sites suitable for accommodating Dual Rotary drilling rigs.
 - C. The Owner will install applicable Erosion and Sedimentation Control measures at drilling sites.
 - D. The Owner knows of no reports of explorations and tests of subsurface conditions available for the Site.
 - E. The Owner knows of no reports of Hazardous Environmental Conditions available for the Site.
- 1.8 Construction by Others: Coordinate with other adjacent construction projects by AUB or by others, if any, in the vicinity of any proposed test well.

END OF SECTION

SECTION 01 22 00 MEASUREMENT AND PAYMENT

PART 1 - GENERAL:

- 1.1 Section Includes: Requirements and procedures for preparing Applications-for-Payment applicable to all Work unless specific instructions are provided otherwise in other Sections of the Specifications.
- 1.2 Submittal Procedures:
- A. Submit Applications for Payment on forms approved in advance by the Engineer.
 - B. Applications for Payment will be accepted only on a monthly cycle. Submit directly to the Engineer's office. Applications cannot be accepted by field personnel or the Owner.
 - C. With each Application, submit copies of applicable invoices for all products and materials incorporated in the Work during the current month and for all Materials-in-Storage claimed. Invoices must show date of purchase, clear descriptions and cost of the products and materials.
 - D. Submit an updated Progress Schedule, as specified elsewhere, with *each* Application for a Progress Payment. Failure to submit an updated schedule may cause delay in payment.
- 1.3 Measurement of Work and Basis of Payment:
- A. Prior to final preparation and submittal of any Application-for-Payment, *Contractor's Superintendent shall meet at the site with Engineer's Representative and they shall jointly measure all Work, including Materials-in-Storage.*
 - 1. The date of the jointly conducted field measurement shall be as close as practical to the "cut-off" date of the Application-for-Payment.
 - B. The basis of payment will be the unit prices and/or lump sum amounts included in the Bid Form. Nothing in this Section shall be construed as providing for additional payment beyond the contractual bid items. Full payment will be made for completed, tested, and approved items only.
- 1.4 Processing for Payment:
- A. Applications for Payment prepared as described in this Section of the Specifications will be processed in accordance with the General Conditions and the Agreement.
 - B. Applications for Payment for Work which is not based on measurements described in this or other Sections of the Specifications will be subject to delay while such measurements are made and/or discrepancies resolved.

END OF SECTION

SECTION 01 33 33 SUBMITTAL PROCEDURES

PART 1 - GENERAL

- 1.1 Section Includes: Supplementary requirements for submittals for products proposed for the Project. These provisions apply to all Work unless specific instructions are provided otherwise within individual Sections of the Specifications or the General Conditions
- 1.2 Submittal Procedures:
- A. Unless otherwise specified, within 30 days after issuance of the Notice to Proceed, submit at least 4 copies **plus** the number of copies requested to be returned to the Contractor.
 - B. If re-submittals are required, the Contractor will be notified in writing of required corrections or of rejected submittals and shall submit new or corrected submittals within 15 days after such notification.
 - C. Submittals shall include a copy of the invoice for any product or material ordered, purchased, or delivered prior to date of submittal.
- 1.3 Contractor's Responsibility:
- A. Each submittal must include the Contractor's approval stamp stating that the submission has been **reviewed and stamped "APPROVED"** by the Contractor. This statement shall warrant that the submittal conforms to the requirements of the Contract Documents, except for any clearly noted deviations.
 - B. Contractor's review and approval stamp must be on each sheet of drawing submittals and on the cover sheet of product or equipment submittals. Provide a title block identifying the Project; Contractor; Subcontractor, Manufacturer, or Supplier; the date; scale of drawings; and a drawing or sheet identification number.
- 1.4 Samples: If samples are required, submit at least 60 days prior to start of operations involving material sampled. Label or tag each sample or set of samples identifying the manufacturer's name and address, brand name, catalog number, project title, and intended use.
- 1.5 Limitations of Engineer's Responsibility: Engineer's review of Contractor's submittals will be only for conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. The Contractor is fully responsible for confirming and correlating all quantities and dimensions; for selecting fabrication processes and techniques of construction; and for coordinating work with that of all trades.

END OF SECTION

SECTION 01 51 00 TEMPORARY FACILITIES

PART 1 - GENERAL

- 1.1 Section Includes: Requirements for providing and maintaining temporary utilities and facilities/controls as necessary to provide utilities needed for construction and to provide control over environmental conditions at the construction site(s) and at related areas under Contractor's control; removal of physical evidence of temporary facilities upon completion of construction. The provisions apply to all Work unless specific instructions are provided otherwise within individual Sections of the Specifications.
- 1.2 Temporary Electricity: Provide temporary electric power service to the site (if needed) for the duration of construction activities as required for the Work.
- 1.3 Temporary Lighting: Provide temporary lighting for the site(s) as necessary for safety, for construction operations, and for the Contractor's and Engineer's quality control inspections.
- 1.4 Temporary Telephone Service: Superintendent shall have functional cell telephone activated at site at all times that construction activities are taking place.
- 1.5 Temporary Trash and Garbage Disposal: Periodically remove and properly dispose of all trash, debris and garbage to keep the site(s) clean and sanitary at all times, including storage and parking area, along access roads, and haul routes.
- 1.6 Temporary Water Service: Provide temporary water needed for construction activities on the site(s). Owner will provide reasonable volumes of water for filling, testing, and flushing, to the extent that water is available.
- 1.7 Temporary Sanitary Facilities: Provide and maintain required toilet facilities and enclosures and maintain in clean and sanitary condition. (Owner's facilities will not be available.)
- 1.8 Noise Control: Comply with all local, state, and federal (OSHA) requirements regarding noise. Limit all operations, except during emergencies, to daylight periods when noise from operations will not disturb residential neighborhoods.
- 1.9 Dust Control: Provide positive dust control methods at the site and all off-site borrow areas. Apply water or other dust control materials as required to minimize dust emissions from construction operations, and provide positive means to prevent air-borne dust from dispersing into the atmosphere at all times. Prevent dust being a nuisance to the public, the neighbors, and to the performance of work at the site(s).
- 1.10 Storm Water Control: Provide methods to control surface water to prevent damage to stored materials, installed work, the site, adjoining properties, and receiving streams. Control all earthwork filling, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas. Dispose of pumped drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining properties.

- 1.11 Pollution Control: Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge or spills of petroleum or noxious substances from construction operations. Provide necessary equipment and personnel to perform emergency measures as required to contain any spillage, and to remove contaminated solid or liquids. Take special measures to contain harmful substances. Provide containment as required by law for all petroleum products or other liquid chemicals stored on construction site(s).
- 1.12 Conditions of Use: Initiate use of temporary facilities when first reasonably required for proper performance of the work. Install, operate, maintain and protect temporary facilities as required by applicable regulations and standards, and as required to assure safe and sanitary conditions for persons and property. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

END OF SECTION

SECTION 33 21 00

TEST WELLS

PART 1 -GENERAL

- 1.1 Section Includes: Providing all equipment, labor, materials, services, tools, and incidentals necessary to construct, temporarily grout, disinfect, develop, and test pump and sample one or more 8-inch test wells for public water supply. This Section does not cover the construction of a final, permanent production well or wells.
- 1.2 Reference Documents: Work shall conform to the applicable provisions of the following reference standards:
- A. AWWA A100-15 Standard for Water Wells.
 - B. AWWA C200-17 Standard for Steel Water Pipe, 6-in. or Larger.
 - C. AWWA C206-17 Standard for Field Welding of Steel Water Pipe.
 - D. AWWA C654-13 Standard for Disinfection of Wells.
 - E. AWWA C655-18 Standard for Field Dechlorinating.
- 1.3 Submittals: Submit under provisions of *Specification Section 01 33 33-Submittal Procedures*.
- A. Prior to drilling operations submit, for Engineer's approval:
 - 1. A sample of the proposed daily log sheet.
 - 2. Casing pipe manufacturer's certification stating the pipe class and wall thicknesses and that all specified tests have been made and the results thereof comply with the requirements of this Specification.
 - B. Upon completion of test well drilling, submit:
 - 1. Drilling records and logs certified by the licensed well driller.
 - 2. Samples of materials encountered. Store and deliver as directed by Engineer.
 - 3. Description of flow measurement device(s) proposed for the Air Development Phase.
- 1.4 Quality Assurance:
- A. The Well Drilling Contractor shall be fully licensed in Tennessee and acceptable to the Tennessee Department of Environment and Conservation (TDEC) Division of Water Resources – Drinking Water Unit.
 - B. Contractor shall employ only competent workers for the execution of the Work, and such Work shall be performed under the direct supervision of a well driller licensed in Tennessee and satisfactory to the Engineer.
 - C. All Work and materials shall be in accordance with TDEC Drinking Water Rules, latest version, as amended.
 - D. All work and materials shall conform to applicable requirements of the referenced AWWA Standards, unless otherwise specified herein.

- 1.5 Delivery, Storage and Handling: Receive, unload, store and assemble all products as instructed by the manufacturer.
- 1.6 Site Conditions:
- A. Contractor shall comply fully with applicable OSHA rules and regulations.
 - B. Contractor shall obtain all required permits and licenses and comply with all local, state, and federal regulations applicable to the work.
 - C. Contractor shall relocate drilling equipment to additional test well locations as directed.
 - D. No utilities are available at AUB's well field site.
- 1.7 Warranty: All products, materials, and workmanship shall be fully warranted for a period of one (1) year after installation and acceptance by the Owner. The warranty shall cover all costs of inspection and repair, including, but not limited to, parts, labor, transportation and engineering.

PART 2 - PRODUCTS

- 2.1 General: All products and materials shall comply with the requirements of NSF/ANSI 61, certified for contact with drinking water.
- 2.2 Casing Pipe: New and unused carbon steel pipe conforming to AWWA C200 Sec. 4.3, ASTM A139, Grade B, or A53, Grade B. Pipe ends shall be beveled for field-butt welding. Minimum wall thickness shall be:

<u>Nominal Diameter (Inches)</u>	<u>Minimum Wall Thickness (Inches)</u>
6	0.188
8	0.250
10	0.307
12	0.330
14	0.375
16	0.375
20	0.375

Casing wall thickness shall be as required for the drilling equipment used, except not less than the minimum thickness specified herein.

- 2.3 Temporary Grouting Materials: Bentonite grout conforming to AWWA A100, Sec. 4.3.7.3. Water shall be obtained from a source of acceptable quality. The source, materials, method of mixing, and consistency of grout shall be approved by the Engineer prior to placement.
- 2.4 Drilling Fluid Materials: Shall conform to AWWA A100 Sec. 4.3.3.
- 2.5 Disinfection: Use a chlorine solution in volume and strength that results in a concentration of at least 50 mg/L of chlorine in all parts of the well for at least 12 hours.

- 2.6 Well Screen: If required, well screen selection shall comply with AWWA A100, Sec. 4.5.
- 2.7 Gravel-Pack: If required, the gravel pack material shall comply with AWWA A100, Sec. 4.6.
- 2.8 Pumping Equipment for Performance Testing: Furnish equipment capable of developing the well and test pumping at the required rates and discharge. The pumping unit shall be complete with prime mover of ample power, controls and appurtenances and shall be capable of being operated continuously without interruption. The equipment shall include a reliable diesel generator of sufficient size. Owner's source of electrical power will not be available.
- 2.9 Flow & Level Measurement Equipment: Provide a weir box, orifice tube, or water meter for measuring the flow of water. Size and type of the equipment must be approved by the Engineer. Provide a well water level measurement device approved by the Engineer.
- 2.10 Performance Pumping for Yield and Drawdown: Provide motive power and other necessary materials, equipment, and supplies required to operate the pumping unit at such rates of discharge and for such continuous periods of time as directed.

PART 3 - EXECUTION

- 3.1 Test Well: It is the Owner's intent to construct one or more test wells on the site as indicated by the Drawings. It is expected that water is most likely to be encountered within 200 to 250 ft. of the surface. However, the test well may be drilled as much as 450 ft. below the surface to fully test for the presence and nature of water-bearing zones. Set temporary casing as necessary to drill the 8-inch test well.
- 3.2 Production Well: **(Production wells are not in this Contract.)** If the test well is successful, it is the Owner's intent to construct one or more permanent wells capable of producing approximately 700 to 1200 gallons per minute. However, the determination of final size and depth of permanent wells will be made by the Engineer upon consultation with the well driller and consulting geologist and will be based upon the information provided by the initial well log and results of preliminary capacity tests.
- 3.3 Test Well Construction Methods:
- A. Well: Drill well with a dual air rotary drilling rig. (Barber rig technology). Casing advance tooling systems are not acceptable for the test well.
 - B. Thoroughly spray chlorine solution on all pipe, pumps and other equipment prior to placing into any well, test well or production well.
 - C. Protection from Contamination: Take all precautions necessary to prevent contaminated water, surface water, or water having undesirable physical or chemical characteristics from entering the stratum from which the well is to draw its supply. If well becomes contaminated or water having undesirable physical or chemical characteristics enters the well, perform such work, and supply such casings, seals, sterilizing agents or other material, as may be necessary to eliminate the contamination or shut off the undesirable water.
 - D. Drilling Fluids: Conform to AWWA A100, Sec. 4.7.3. Provide drilling fluids from an uncontaminated source or disinfect before use. Dispose of drilling fluids as required by law.

- E. Casing Installation: Install well casing by drilling into the water bearing rock formation until a seal is obtained, but not less than five (5) feet into the rock. Temporary or surface casings, if needed, shall extend not less than 12-inches above the existing ground level elevation. Casing shall be plumb, continuous with welded joints, and watertight from top to bottom of the casing.
 - F. Welding: Welding of casing pipe, temporary or permanent, shall conform to requirements of AWWA C206, performed by qualified welders. All welds shall be subject to inspection by the Engineer.
 - G. Casing Records: Keep an exact record of the order in which each piece of casing pipe is installed in the well, identifying each by number, size, and length.
- 3.4 Drilling Logging: Keep an accurate and complete log of construction actions, accomplishments, and conditions encountered. The log shall include the following data:
- A. Near surface conditions and the nature of materials through which casing is set.
 - B. Depth of hole drilled during each day's operation.
 - C. Length and size of casing installed during each day's operation and the level (depth below surface) to which the casing extends.
 - D. The static water level in the hole at the beginning and end of each day's operation.
 - E. Depth at which each change of formation occurs; thickness and precise depths of all rock cavities encountered and nature of material in the rock cavities.
 - F. Depth at which each water-bearing stratum is encountered. (If the static water level should be affected by entrance into the water bearing strata), the rise or fall of the static water level due to penetration of the water-bearing strata shall be recorded.
 - G. Quantity and quality of water from each water-bearing zone.
 - H. Results of all air development and other tests.
- 3.5 Temporary Grouting: Pressure grout the annular space between the inner or protective casing and the outer casing or hole with high-solids bentonite grout for the entire length of the casing.
- A. The thickness of the grout surrounding the casing shall not be less than one and one-half inches (1-1/2"). Pump grout upwards towards the surface using a tremie pipe or forced injection from the bottom of the space to be grouted to top of well. Provide a suitable cement retainer, packer, or plug at the bottom of the casing so that the grout will not leak into the bottom of the well. Grout continuously and in such a manner as will ensure complete filling of the entire annular space in one operation.
 - B. Provide at least 48 hours notice to the Engineer before starting any grouting operations.
 - C. Conduct no drilling operations or other work in the well within 24 hours after the grouting of casings.

- 3.6 Plumbness and Alignment:
- A. Tests for plumbness and alignment are not required for test wells;
 - B. However, each completed test well shall have plumbness and alignment sufficient to accommodate pumps and piping for the specified Performance Testing rate.
- 3.7 Security: At all times during the progress of the Work, use reasonable precautions to prevent either tampering with the well or the entrance of foreign material or surface water into the well.
- 3.8 Temporary Capping: At all times during the progress of the work, protect the well in a manner that will effectively prevent either tampering with the well or the entrance of foreign matter into it. At all times when the well is unattended, provide a secure, locked cover. Upon completion and demobilization, install a substantial and secure screwed, flanged, or welded cap satisfactory to the Engineer.
- 3.9 Driller's Log: All the required information shall be recorded on daily log sheets, dated and signed by the licensed well driller. A copy of each daily log sheet shall be available to the Owner's Representative at the end of each day's operation. The log shall be loose leaf type; and all entries shall be made in ink. The log shall be furnished by the Contractor and, upon completion of the project, shall be delivered to the Engineer.
- 3.10 Cuttings Samples: Collect samples of cuttings representing each 10 ft. drilled interval and all strata encountered. Place each dry sample in a separate closed container and properly label each container to show the test well number, depth at which sample was taken, and date of sampling. Upon completion of each well, all samples obtained from that well shall be delivered to the Owner's Representative.
- 3.11 Water Samples: Collect a water sample from each water-bearing stratum encountered. At the completion of the test well deliver the samples to the Owner's Representative.
- A. Each sample quantity shall be two gallons, with one gallon being placed in each of two containers.
 - B. Container markings shall show the well number, depth of water-bearing stratum from which the sample was taken, and the date and time of collection.
 - C. Samples shall be collected during or following capacity tests in such a manner that the samples will be representative of the water from the particular water-bearing stratum or strata.
- 3.12 Air Development Phase:
- A. Interim Development: Unless otherwise directed, conduct a preliminary capacity test by air development at each significant water-bearing zone encountered and keep records as specified herein. Measure static water level and continue by means of air blowing to determine approximate quantity and quality of the water encountered. Continue air blowing for at least 1 hour per water zone encountered and record all changes in quantity and/or quality.

- B. Final Air Development: Provide final development with air after a water-bearing strata has been selected by the Engineer and isolated by casing and temporary grouting. Such development shall consist of air blowing using the drilling rig and shall be for a period determined by the Engineer, usually not less than 24 hours.
- C. For all air development operations, provide suitable catchment area around the drilling rig to contain and measure the volume of water being blown from well. Provide approved measuring device to determine approximate rate of water flow from the well.

3.13 Cleaning:

- A. After the completion of development, remove by blowing, pumping, or other approved methods any foreign material that may have become deposited in the well between the water bearing zone and the bottom of the well.

3.14 Disinfection and Flushing:

- A. After the well has been completely constructed and grouted, and when instructed by the Engineer, thoroughly clean, disinfect, and flush the well.
- B. Thoroughly swab the casing pipe, using alkalis if necessary, to remove oil, grease, or joint dope. Disinfect the well per AWWA C654 using a chlorine solution which shall be prepared and applied in accordance with the direction of, and to the satisfaction of, the Engineer, and which shall remain in the well for a period of at least twelve (12) hours before flushing. In the event a pump is to be installed after the well has been disinfected, treat all exterior parts of the pump and piping with a chlorine compound as directed by the Engineer.
- C. Thoroughly flush the well by pumping at least 24 hours. The contractor is responsible for complying with the dechlorinating provisions of AWWA C655-18 by means of chemical or nonchemical methods.

3.15 Abandonment of Well:

- A. In the event that any well is to be abandoned for any reason, including failure to sink the well to an acceptable depth or because of loss of tools, lack of water, or for any other cause, permanently plug and seal the abandoned hole in accordance with Georgia law.
- B. Unless otherwise approved by the Engineer, fill the entire length of well hole with neat cement grout, sand/cement grout, or concrete, disinfected and free of foreign materials.
- C. Fill materials shall be placed from the bottom upwards by methods that will avoid segregation or dilution of material.
- D. Provide a report signed by the licensed well driller certifying that the abandonment and plugging was performed in accordance with Tennessee law.

3.16 Performance Testing for Test Well and Production Well: After a well has been completely constructed, developed and cleaned out, and after preliminary air development has indicated the availability of an acceptable quantity and quality of water, notify the Engineer and Owner and request a schedule to start the performance testing phase.

- A. Provide 48 hour notice to Engineer and Owner prior to start of performance testing.
- B. Pumping Equipment: Furnish and install necessary equipment capable of developing the well and test pumping at 500 gallons per minute. The pumping unit shall be complete with prime mover of ample power, controls and appurtenances and shall be capable of being operated continuously without interruption.
- C. Flow and Level Measurement Equipment: Furnish, install and maintain equipment of size and type approved by the Engineer for measuring the flow of water and water levels in the well during the performance testing.
- D. Performance Pumping for Yield and Drawdown: Conduct performance testing in conformance with AWWA A100, Section 4.8 and 5.1. If directed by the Engineer, provide pumping for step- drawdown test, constant-rate test, and recovery time test. Normally, test pumping for yield and drawdown will be at least 24 hours for test well. Interruptions, if caused by the Contractor, shall be compensated for by correspondingly extending the time of the completion of the test run at no additional cost to the Owner.
- E. The Owner reserves the right to require the Contractor to extend performance testing, and/or to make additional tests, at the hourly unit prices bid.

3.17 Water Quality Sampling:

- A. Provide suitable pumping of well after disinfection until no traces of chlorine remain in the water and assist Engineer in obtaining samples for bacteriological and/or chemical analysis by Owner.

3.18 Project Records: Upon completion of the Work, submit the following to Engineer: performed in accordance with Tennessee law.

- A. Certified Log Book containing daily reports describing the nature of material encountered, the work done during each day, including such items of work accomplished such as depth drilled, casing set, the water level in the well at the beginning and end of each shift, and such other pertinent data as requested by the Engineer. A copy must be in electronic spread sheet.
- B. Certified Water Well Driller's Report (Well Driller's Log) on forms furnished by TDEC. The report shall be certified and signed by the licensed well driller who was in responsible charge of the well drilling and testing.

END OF SECTION

Athens Utility Board

Fracture Trace Study
Geologic Map of Tennessee

* Nolichucky Shale, etc.

* Copper Ridge

* upper Knox

* Athens Shale

* Lenoir Limestone

Ingleside Ave

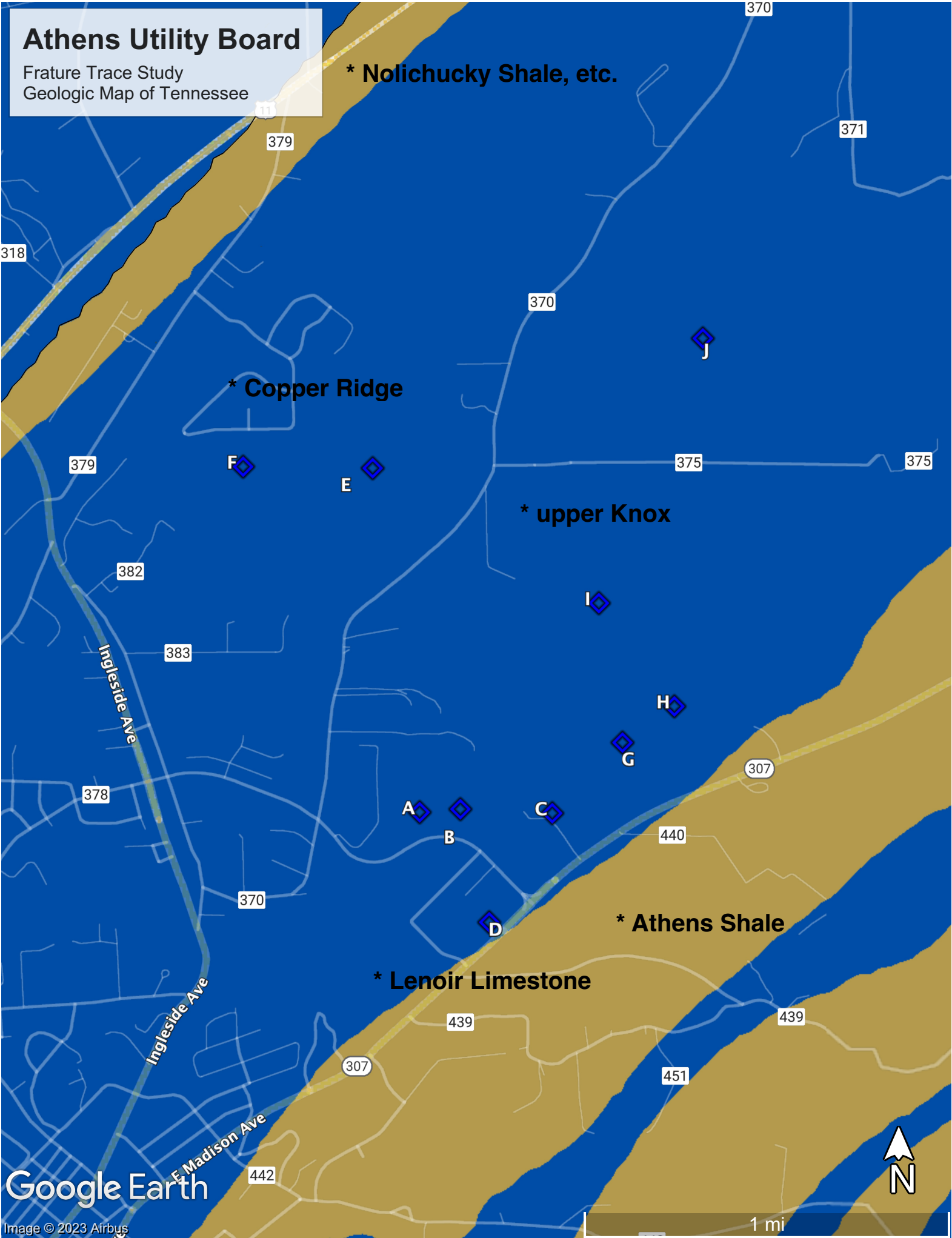
E. Madison Ave

Google Earth

Image © 2023 Airbus

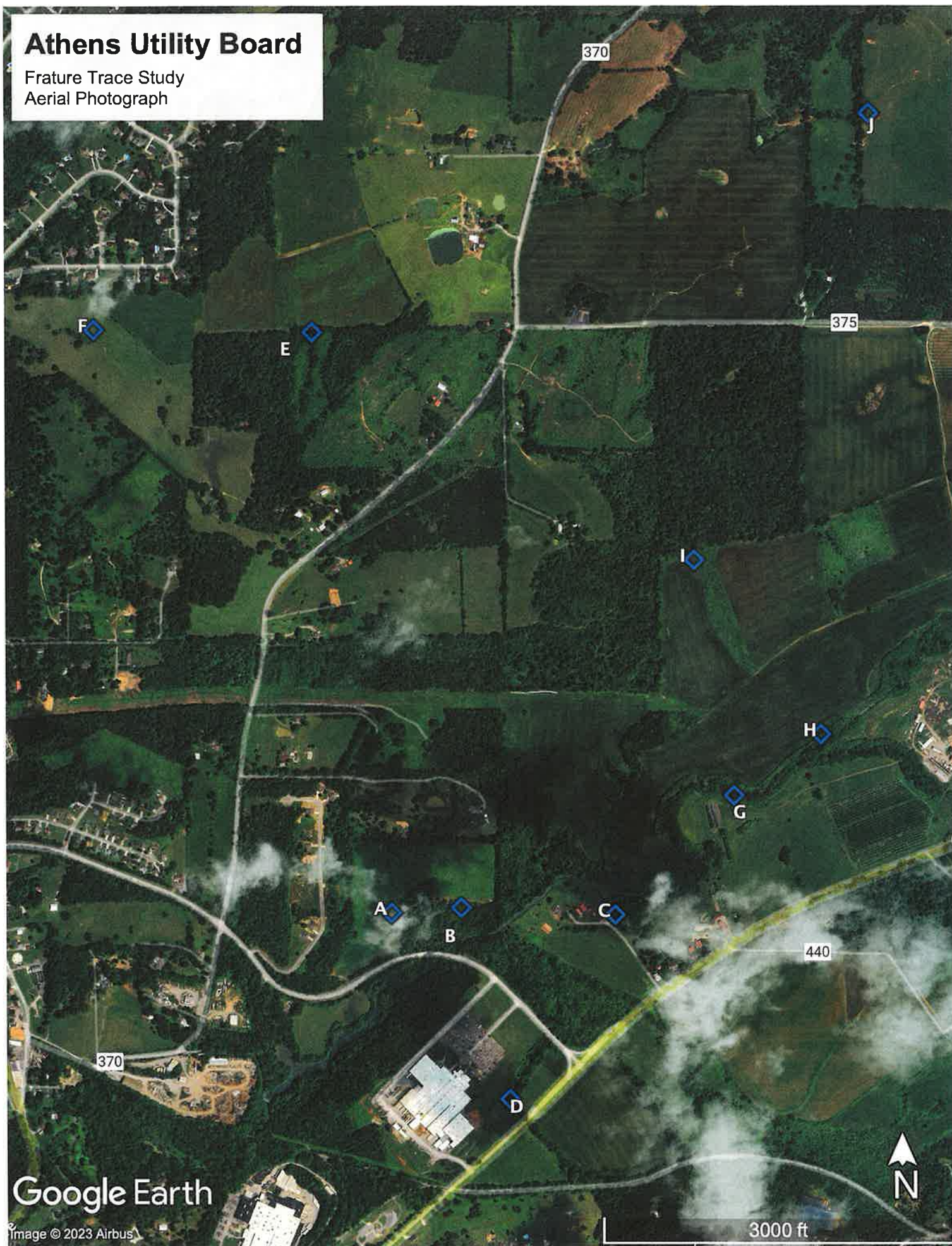


1 mi



Athens Utility Board

Frature Trace Study
Aerial Photograph



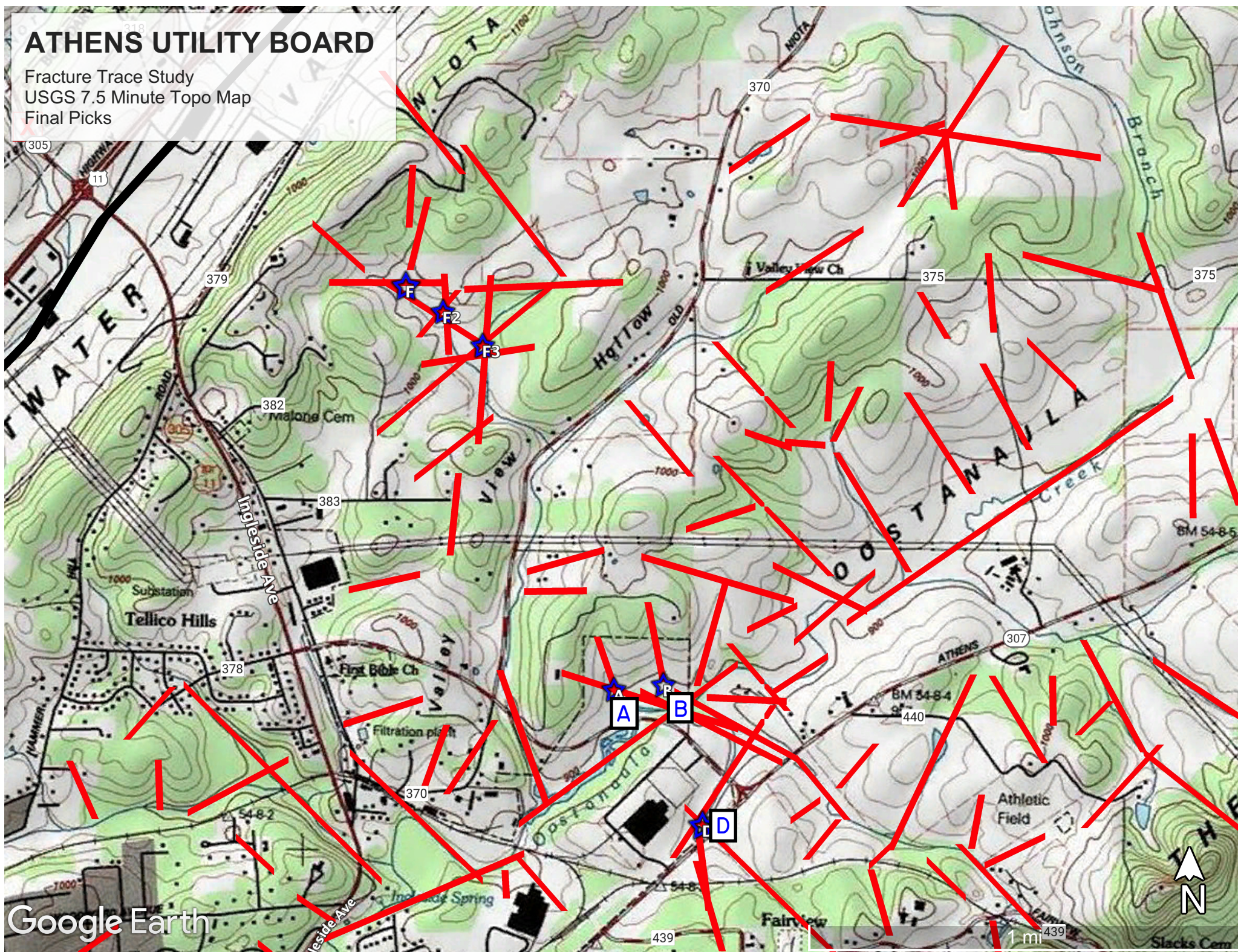
Google Earth

Image © 2023 Airbus

3000 ft

ATHENS UTILITY BOARD

Fracture Trace Study
USGS 7.5 Minute Topo Map
Final Picks



The coordinates are given in degrees of latitude/ longitude using North American Datum 1983 (NAD83) and are listed as follows:

WELL LOCATIONS	DRILL ORDER	LATITUDE/ LONGITUDE
B	1	N35.463924°, W84.568507°
A	2	N35.463769°, W84.570535°
D	3	N 35.459231°, W84.566897°
F3	4	N 35.475276°, W84.575923°
F	5	N 35.477275°, W84.579075°
F2	6	N 35.476407°, W84.577553°