

**Solicitation
For Participation in
Construction Services for Main Street (WTP) Well Number 15
for**



**Jacksonville, FL
Solicitation Number 103-17**

**Optional Pre-Bid Meeting 9:00 AM, June 13, 2017 (In person or by teleconference)
Optional Pre-Bid Location: JEA, Customer Center, Procurement Bid Office (Room 002), 21 West Church
Street, Jacksonville, FL 32202
Call in Number: 1-888-714-6484
Participation Code: 817050
Optional Site Walkthrough, immediately following the completion of the Pre-Bid meeting at the water
treatment plant
All companies attending the site walkthroughs shall bring their own personal protective equipment**

**Bids are due on July 11, 2017
Direct delivery or mail to JEA Bid Office, Customer Center 1st Floor, Room 002
21 W. Church Street, Jacksonville, FL 32202**

**JEA will publicly open all Bids received from qualified Bidder's on July 11, 2017, at
2:00 PM in the JEA Bid Office, Customer Center 1st Floor, Room 002, 21 W. Church Street, Jacksonville, FL**

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SOLICITATION

1. SOLICITATION

1.1. SCOPE OF WORK

This project includes the construction of a new production well to supply raw water to the Main Street Water Treatment Plant (WTP) well number 15. It is anticipated that each well will yield approximately 2,500 gallons per minute (gpm). Additional ancillary services to support the well are defined in the technical specification.

Further information can be found in Appendix A Technical Specifications and Appendix A Drawings.

1.2. QUESTIONS

All questions must be submitted in writing to the JEA Buyer listed below at least five (5) business days prior to the opening date. Questions received within five (5) business days prior to the opening date will not be answered.

For Procurement Related Questions:

Buyer: Rodney Lovgren
E-mail: lovgrd@jea.com

For Technical Questions:

Contact: Brian Gaines
E-mail: gainba@jea.com

1.3. INVITATION (IFB)

You are invited to submit a Bid in response to the Invitation for Bid (IFB) noted below:

JEA Solicitation Title: **Construction Services for Main Street (WTP) Well Number 15**

JEA Solicitation Number: **103-17**

To obtain more information about this IFB, download a copy of the IFB, PDF quality drawings (if applicable) and any required forms at jea.com.

Bid Due Time: 12:00 PM EST- ALL LATE BIDS WILL BE REJECTED.

Bid Due Date: July 11, 2017

All Bids must reference the JEA Solicitation title and number noted above. All Bids must be made on the appropriate Bid forms as specified within this Solicitation, and placed in an envelope marked to identify the Solicitation and delivered or mailed to:

JEA Procurement, Bid Office, Customer Center 1st Floor, Room 002, Jacksonville, FL 32202

The Bidder shall be solely responsible for delivery of its Bid to the JEA Bid Office. **Please note, JEA employs a third party courier service to deliver its mail from the local U.S. Postal Service (USPS) which could cause a delay of Bid delivery if mailed through the USPS.** Therefore, JEA recommends direct delivery to the JEA Bid Office. Reliance upon the USPS, the courier service employed by JEA to make pick-ups from the local USPS, or public carriers is at the Bidder's risk.

Bids are due by the time and on the date listed above. ALL LATE BIDS FOR WHATEVER REASON WILL BE RETURNED UNOPENED.

1.4. OPTIONAL PRE-BID MEETING (IN PERSON OR BY TELECONFERENCE)

There will be an optional Pre-Bid meeting. Bidders may attend the Pre-Bid meeting in person or by teleconference. Bidders are encouraged to sign in at the beginning of the meeting, to be added to the mailing list for addendums. A Bidder shall only sign in representing one company, unless otherwise specified by JEA.

PLEASE ARRIVE OR DIAL IN TEN (10) MINUTES PRIOR TO THE PRE-BID MEETING TO FACILITATE SIGN IN PROCESS

Pre-Bid Meeting Time: 9:00 AM

Pre-Bid Meeting Date: June 13, 2017

Pre-Bid Location: JEA, Customer Center, Procurement Bid Office (room 002), 21 West Church Street,
Jacksonville, FL 32202

Pre-Bid Teleconference: 1-888-714-6484

Pre-Bid Participation Code: 817050

An optional site walkthrough will be held at the water treatment plant following the Pre-Bid. The plant location is:

Main Street WPT: 1210 Clark Street, Jacksonville, FL 32202

1.5. OPENING OF BIDS

All qualified Bid submissions shall be publicly opened, read aloud and recorded at 2:00 PM on July 11, 2017 at the JEA Bid Office, 21 W. Church Street, Customer Center 1st Floor, Room 002, Jacksonville, FL 32202.

At the opening of Bids, a JEA Representative will publicly open and announce each Bid that was received on time. Bids that have been properly withdrawn will not be opened. JEA has the right to waive any irregularities or informalities in the Bid Document.

2. SPECIAL INSTRUCTIONS

2.1. MINIMUM QUALIFICATIONS FOR SUBMISSION

Bidder shall have the following Minimum Qualifications to be considered eligible to submit a Bid in response to this Solicitation. It is the responsibility of the Bidder to ensure and certify that it meets the Minimum Qualifications stated below. A Bidder not meeting all of the following criteria will have their Bids rejected:

- Bidder must be on Responsible Bidder List (RBL) category **Well Drilling (SW-8)** by the due date of this Solicitation.

For questions about RBL list **SW-8** please contact Melanie Newton-Green at (904) 665-6740 or at newtmi@jea.com.

Please note any Bidder whose contract with JEA was terminated for default within the last two (2) years shall have their Bid rejected.

2.2. REQUIRED FORMS TO SUBMIT WITH BID

To submit a Bid in response to this Solicitation, all of the forms listed below must be completed and submitted as part of the Bid. The Bidder must obtain the required forms, other than the forms provided in the solicitation, by downloading them from JEA.com. If the Bidder fails to complete or fails to submit one or more of the required forms, the Bid shall be rejected.

The following forms are required to be submitted at the time of Bid:

- o Bid Form (located in Appendix B)
- o Bid Bond
- o Florida Trench Safety Act Acknowledgment
- o Construction and Demolition Debris Disposal (if applicable)
- o List of Subcontractors – List of work that will not be self-performed (Surveyor at a minimum)
- o State of Florida license number – entered on the Bid Form

If the above listed forms are not submitted with the Bid by the Bid Due Time on the Bid Due Date, JEA shall reject the Bid.

JEA also requires the following documents to be submitted prior to execution of Contract. A Bid will not be rejected if these forms are not submitted at the Bid Due Time and Date. However, failure to submit these documents at the time of Contract execution could result in Bid rejection.

- o List of JSEB Certified Firms (if any)
- o Conflict of Interest Certificate Form
- o Insurance Certificate
- o W-9
- o Evidence of active registration with the State of Florida Division of Corporations (www.sunbiz.org)
- o Any technical submittals as required by the Technical Specifications.

2.3. EVALUATION METHODOLOGY

2.3.1. COMPETITIVE BIDDING - IFB

JEA will review Bids to determine if they meet the Minimum Qualifications as stated in this IFB. JEA will Award the Contract to the lowest responsive and responsible Bidder who meets or exceeds the Minimum Qualifications, and whose Bid represents the lowest cost to JEA.

NO EXCEPTIONS ARE ALLOWED IN A REQUEST FOR QUOTE. IF THE BIDDER OBJECTS IN ANY MANNER TO THE TERMS AND CONDITIONS OR TECHNICAL SPECIFICATIONS, THE OBJECTION MUST BE ADDRESSED IN WRITING THREE (3) BUSINESS DAYS PRIOR TO THE BID OPENING DATE, AND THE OBJECTION MAY BE ADDRESSED IN AN ADDENDUM IF JEA BELIEVES THAT A CLARIFICATION OR CHANGE IS NECESSARY. ANY MODIFICATIONS, EXCEPTIONS OR OBJECTIONS STATED WITHIN THE BID DOCUMENT SHALL SUBJECT THE BID TO BE REJECTED.

2.4. NUMBER OF CONTRACTS TO BE AWARDED

JEA intends to Award one (1) Contract(s) for the Work. JEA reserves the right to Award more than one (1) Contract based on certain groupings of the Work items, or JEA may exclude certain Work items, if JEA determines that it is in its best interest to do so.

2.5. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM REQUIREMENTS

2.5.1. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) OPTIONAL

It is at the Respondent's option as to whether it chooses to subcontract to a JSEB firm. JEA encourages the use of JSEB qualified firms; however, the Respondent is not required to utilize JSEB firms to be Awarded this Contract.

JSEB firms that qualify for this Contract are only those shown on the current City of Jacksonville JSEB directory appearing at www.COJ.net. Certification of JSEB firms must come from the City of Jacksonville. No other agency or organization is recognized for purposes of this Contract.

In no case shall the Respondent make changes to the JSEB firms listed in its Response, revise the JSEB Scope of Work or amount of Work as stated in its Response without prior written notice to the JEA Contract Administrator, and without subsequent receipt of written approval for the JEA Contract Administrator.

Any subcontractors of Respondent shall procure and maintain the insurance required of Respondent hereunder during the life of the subcontracts. Subcontractors' insurance may either be by separate coverage or by endorsement under insurance provided by Respondent. Note: Any JSEB firms identified by Respondent for this Solicitation are considered "Subcontractors" under the direct supervision of the Prime or General Contractor (herein referred to as Respondent in this Solicitation). Respondents should show good faith efforts in providing assistance to JSEB firms in the securing of Subcontractors' insurance requirements stated in this section. Respondent shall submit subcontractors' Certificates of Insurance to JEA prior to allowing subcontractors to perform Work on JEA's job sites.

All question and correspondence concerning the JSEB program should be addressed to the following contact: G. Nadine Carswell, JSEB Manager, JEA, (904) 665-6257, carsgs@jea.com.

All questions and correspondence concerning the JSEB program should be addressed to the following contact:

G. Nadine Carswell
JEA - JSEB Manager
(904) 665-6257
carsgs@jea.com

2.6. INSURANCE REQUIREMENTS

Prior to JEA issuing a Purchase Order to the Bidder to begin the Work or Services, the Bidder shall submit a certificate of insurance (COI) that is in compliance with amounts and requirements as indicated in the Section herein entitled "Insurance Requirements". **Note that the COI shall specifically indicate JEA (and Florida Power and Light Company ("FPL"), if applicable) as additional insured(s) on all required insurance except Worker's Compensation and Professional Liability (if applicable). Furthermore, waiver of subrogation shall be provided for all required insurance in favor of JEA, FPL (if applicable), including their board members, officers, employees, agents, successors, and assigns.**

2.7. PAYMENT AND PERFORMANCE BOND REQUIREMENTS

Once the Bidder is Awarded the Contract and upon receipt of the Contract Documents, the Bidder shall furnish a Payment and Performance Bond, or alternate form of security, in the amount indicated on the Bid Form, made out to JEA in forms and formats approved and provided by JEA, as security for the faithful performance of the Work or Services. No modifications to the JEA bond forms are allowed.

A fully executed Payment and Performance Bond must be recorded with the Clerk of Duval County Court and delivered to JEA before the JEA Purchase Order will be issued. JEA will send the approved bond forms to the

Bidder for execution along with the Contract; however, in no case shall the date on the bond forms be prior to that of the executed Contract. The surety must be authorized and licensed to transact business in Florida. Note, that the Bidder is responsible for the costs associated with the required Payment and Performance Bonds; therefore, the costs should be included in the Bidder's total Bid Price. If the Bidder fails or refuses to furnish or record the required bonds, JEA will retain the Bidder's bid bond as liquidated damages.

To be acceptable to JEA as surety for Performance and Payment Bonds, a surety company shall comply with the following provisions:

- o The Surety Company shall have a currently valid Certificate of Authority, issued by the State of Florida, Department of Insurance, authorizing it to write surety bonds in the State of Florida.
- o The Surety Company shall have a currently valid Certificate of Authority issued by the United States Department of Treasury under Sections 9304 to 9308 of Title 31 of the United States Codes.
- o The Surety Company shall be in full compliance with the provisions of the Florida Insurance Code.
- o The Surety Company shall have at least twice the minimum surplus and capital required by the Florida Insurance Code during the life of this agreement.
- o If the Contract Award Amount exceeds \$500,000, the Surety Company shall also comply with the following provisions:

The Surety Company shall have at least the following minimum ratings in the latest issue of A.M. Best's Key Rating Guide.

- o POLICY HOLDER'S CONTRACT AMOUNT AND REQUIRED FINANCIAL RATING
 - o \$500,000 TO 1,000,000: A-CLASS IV
 - o \$1,000,000 TO 2,500,000: A-CLASS V
 - o \$2,500,000 TO 5,000,000: A-CLASS VI
 - o \$5,000,000 TO 10,000,000: A-CLASS VII
 - o \$10,000,000 TO 25,000,000: A- CLASS VIII
 - o \$25,000,000 TO 50,000,000: A- CLASS IX
 - o \$50,000,000 TO 75,000,000: A- CLASS X

The Surety Company shall not expose itself to any loss on any one risk in an amount exceeding ten (10) percent of its surplus to policyholders, provided:

Any risk or portion of any risk being reinsured shall be deducted in determining the limitation of the risk as prescribed in this section. These minimum requirements shall apply to the reinsuring carrier providing authorization or approval by the State of Florida, Department of Insurance, to conduct business in this state has been met.

In the case of the surety insurance company, in addition to the deduction for reinsurance, the amount assumed by any co-surety, the value of any security deposited, pledged or held subject to the consent of the surety and for the protection of the surety shall be deducted.

2.8. SAFETY QUALIFICATION REQUIREMENTS (IFB)

Bidder shall be approved as JEA Safety Qualified within ten (10) business days of receiving written notice from the JEA Bid Office that it is the lowest responsive and responsible Bidder. If the Bidder fails to obtain JEA approval as a JEA Safety Qualified company by 4:00 p.m. Eastern Time on the 10th business day, JEA will reject the company's Bid, and proceed to Award to the next lowest responsive and responsible Bidder.

JEA Safety Qualification information is available online at jea.com. Please note that it may take up to five (5) business days for a company to be approved as JEA Safety Qualified. It is the Bidder's responsibility to ensure it is JEA Safety Qualified. A list of the JEA's Safety Qualified vendors can be found on jea.com. For additional information, contact Jerry Fulop at (904) 665-5810.

2.9. TIME

In computing any period of time prescribed or allowed by this solicitation, the day of the act, event, or default from which the designated period of time begins to run shall not be included. The last day of the period so computed shall be included unless it is a Saturday, Sunday, or JEA holiday, in which event the period shall run until the end of the next day which is neither a Saturday, Sunday, or JEA holiday.

2.10. BID SECURITY/BID BOND

All Bids shall be accompanied by a bid security in the amount stated on the Bid Form. The bid security must be furnished by the Bidder at or before the opening of Bids. The bid security shall either be issued by a surety company authorized to do business in the State of Florida, or Bidder shall furnish a certified check or cashier's check in the amount of **five percent (5%)** of the total Bid Amount shown on the Bid Form. The JEA Bid Bond form can be found at jea.com. Failure to furnish the required bid security will disqualify the Bid. If the Bidder is Awarded the Work and fails to execute the Contract within ten (10) days of postmarked date on the Contract Documents, JEA shall retain the Bid Bond or check as liquidated damages.

3. GENERAL INSTRUCTIONS

3.1. COMPLETING THE BID DOCUMENTS

Bidders shall complete and submit all Bid Documents with responses typewritten or written in ink. ALL BIDS SUBMITTED LATE TO THE JEA BID OFFICE WILL BE REJECTED.

When a blank is marked "optional" on the bid form, the Bidder shall insert the words "No Bid" in the space provided if the Bidder does not choose to submit a price for that item. Failure to complete each blank with either a price or the words "No Bid" may disqualify the Bid. The Bidder, or its authorized agent or officer, shall sign the Bid Documents. Failure to sign the Bid Documents may disqualify the Bid. JEA approved erasures, interlineations or other corrections shall be authenticated by affixing in the margin, immediately opposite the correction, the handwritten signature of each person executing the Bid. Failure to authenticate changes may disqualify the Bid. JEA may disqualify any Bids that deviate from the requirements of this Solicitation, and those that include unapproved exceptions, amendments, or erasures.

3.2. CALCULATION OF THE BID PRICE

JEA will use the Bidder's Total Bid Price stated on the Bid Form when making price comparisons for Award purposes.

3.3. SUBMITTING THE BID FORM

The Bidder shall submit one (1) original of all the Bid Documents and two (2) duplicates and one (1) CD or thumb-drive of the original Bid Documents. It is encouraged that all submitters include an electronic version with their hardcopy submittal.

JEA will not accept Bid Documents files transmitted via email. If electronic copies of the Bid Documents are submitted, they must be submitted on a CD with the hardcopies of the Bid Documents.

3.4. MODIFICATION OR WITHDRAWAL OF BIDS

The Bidder may modify or withdraw its Bid at any time prior to the Bid Due Date and Time by giving written notice to JEA's Chief Procurement Officer. JEA will not accept modifications submitted by telephone, telegraph, email, or facsimile, or those submitted after the Bid Due Date and Time. The Bidder shall not modify or withdraw its Bid from time of Bid opening and for a period of ninety (90) days following the opening of Bids.

3.5. ADDENDA

JEA may issue Addenda prior to the Bid opening date to revise, in whole or in part, or clarify the intent or requirements of the Solicitation. The Bidder shall be responsible for ensuring it has received all Addenda prior to submitting its Bid and shall acknowledge receipt of all Addenda by indicating where requested on the Bid Form. JEA will post all Addenda when issued online at jea.com. The Bidder must obtain Addenda from the JEA website. All Addenda will become part of the Solicitation and any resulting Contract Documents. It is the responsibility of each Bidder to ensure it has received and incorporated all Addenda into its Bid. Failure to acknowledge receipt of Addenda may be grounds for rejection of a Bid.

3.6. CONTRACT EXECUTION AND START OF WORK

Within thirty (30) days from the date of Award, JEA will present the successful Bidder with the Contract Documents. Unless expressly waived by JEA, the successful Bidder shall execute a Contract for the Work or Services within ten (10) days after receiving the Contract from JEA. If the Bidder fails to execute the Contract or associated documents as required, or if it fails to act on a JEA-issued Purchase Order (PO), JEA may cancel the Award with no further liability to the Bidder, retain the bid security or bond (if applicable), and Award to the next-ranked company.

Upon JEA's receipt of the executed Contract, certificate of insurance, and recorded Payment and Performance bonds (if applicable), JEA will issue a PO, in writing and signed by an authorized JEA representative as acceptance of the Proposal or Bid and authorization for the company to proceed with the Work, unless otherwise stated in the Contract or PO.

For Construction Services: In the event that JEA intends to authorize the successful Bidder to proceed with administrative work only, or with only a portion of the Work, then the PO shall state the specific limitations of such authorization and JEA will issue a separate written Notice to Proceed to authorize the Bidder to begin Field Work, when applicable, or to perform the remainder of the Work, or any portion thereof. The Bidder shall ensure that it is prepared to begin Field Work upon receipt of Notice to Proceed. Any Work performed outside of this partial authorization shall be at the Bidder's risk and JEA shall have no obligation to pay for such Work.

3.7. DEFINED TERMS

Words and terms defined in the Section entitled "Definitions" of this document are hereby incorporated by reference into the entire document.

3.8. EX PARTE COMMUNICATION

Ex Parte Communication is strictly prohibited. Ex Parte Communication is defined as any inappropriate communication concerning a Solicitation between a firm submitting a Bid and a JEA representative during the time in which the Solicitation is being advertised through the time of Award. Examples of inappropriate communications include: private communications concerning the details of Solicitation in which a Bidder becomes privy to information not available to the other Bidders. Social contact between Bidders and JEA representatives should be kept to an absolute minimum during the solicitation process.

Failure to adhere to this policy will disqualify the noncompliant Company's Bid. Any questions or clarifications concerning a Solicitation must be sent in writing via email to the JEA Buyer at least three (3) business days prior to the opening date. If determined by JEA, that a question should be answered or an issue clarified, JEA will issue an addendum to all Bidders.

For more information on Ex Parte communications, see JEA Procurement Code, Article 1-110, which is available at www.jea.com.

3.9. JEA PUBLICATIONS

Applicable JEA publications are available at www.jea.com.

3.10. PROHIBITION AGAINST CONTINGENT FEES

The Company warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Company, or an independent sales representative under contract to the Company, to solicit or secure a contract with JEA, and that it has not paid or agreed to pay any person, company, corporation, individual or Company, other than a bona fide employee working solely for the Company, or an independent sale representative under contract to the Company, any fee, commission, percentage, gift, or any other consideration, contingent upon or resulting from the Award or making of the Contract. For a breach or violation of these provisions occurs, JEA shall have the right to terminate the Contract without liability, and at its discretion, to deduct from the Contract Price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration.

3.11. RESERVATIONS OF RIGHTS TO JEA

The Solicitation provides potential Companies with information to enable the submission of written offers. The Solicitation is not a contractual offer or commitment by JEA to purchase products or services.

Bids shall be good for a period of ninety (90) days following the opening of the Bids.

JEA reserves the right to reject any or all Bids, or any part thereof, and/or to waive informalities if such action is in its best interest. JEA may reject any Bids that it deems incomplete, obscure or irregular including, but not limited to, Bids that omit a price on any one or more items for which prices are required, Bids that omit Unit Prices if Unit Prices are required, Bids for which JEA determines that the Bid is unbalanced, Bids that offer equal items when the option to do so has not been stated, Bids that fail to include a Bid Bond, where one is required, and Bids from Companies who have previously failed to satisfactorily complete JEA contracts of any nature or who have been scored by JEA as "Unacceptable" and as a result, are temporarily barred from bidding additional work.

JEA reserves the right to cancel, postpone, modify, reissue and amend this Solicitation at its discretion.

JEA reserves the right to cancel or change the date and time announced for opening of Bids at any time prior to the time announced for the opening of Bids. JEA may Award the Contract in whole or in part. In such cases whenever JEA exercises any of these reservations, JEA will make a commercially reasonable effort to notify, in writing, all parties to whom Solicitations were issued. JEA may award multiple or split Contracts if it is deemed to be in JEA's best interest.

4. CONTRACT TERMS AND CONDITIONS

4.1. CONTRACT DOCUMENT AND TERMS AND CONDITIONS

Provided below are the Contract terms and conditions that will be incorporated by reference in the Contract Document executed by the Company and JEA. The Contract Document will incorporate by reference the terms

contained in the Solicitation portion of this document provided in Section 1, the Contract Terms provided in Section 2; and the Technical Specifications provided in Section 3. An example of the Contract that the Company will be required to execute is available for review at jea.com.

4.2. DEFINITIONS

4.2.1. DEFINITIONS

Words and terms defined in this section shall have the same meaning throughout all parts of this Solicitation and Contract Documents. Where intended to convey the meaning consistent with that set forth in its definition, a defined word or term is marked by initial capitalization. The "Technical Specifications" portion of this Solicitation may define additional words and terms where necessary to clarify the Work. Unless otherwise stated in this Solicitation and/or Contract Documents, definitions set forth in the "Technical Specifications" shall apply only within the "Technical Specifications."

4.2.2. ACCEPTANCE

JEA's written notice by the Contract Administrator to the Company that all Work as specified in the Contract, or a portion of the Work as specified in a Task or Work Order, has been completed to JEA's satisfaction. Approval or recognition of the Company meeting a Milestone or interim step does not constitute Acceptance of that portion of Work. Acceptance does not in any way limit JEA's rights under the Contract or applicable laws, rules and regulations.

4.2.3. ADDENDUM/ADDENDA

A written change or changes to the Solicitation which is issued by JEA Procurement Services and is incorporated into the Solicitation as a modification, revision and/or further clarification of the intent of the Solicitation.

4.2.4. ADMINISTRATIVE WORK

Actions primarily performed in an office environment and associated with preparing to perform or administer the Work including, but not limited to, preparing Work schedules, obtaining bonds, executing Contracts, securing resources and other actions specified in the Solicitation, or otherwise prudent to ensure a timely, safe and otherwise compliant start and performance of Field Work. Administrative Work is not performed at the Work Location.

4.2.5. APPLICATION FOR PAYMENT

The form required for payment which shall include all items required pursuant to the contract for the payment to be processed by JEA. Such form shall require the Contractor expressly state that the Contractor has fulfilled all obligations for the previous payments issued to the Contractor, including payment for subcontractors and materials. The Application for Payment includes all forms and supporting documentation as required by the Contract documents.

4.2.6. APPROVED SCHEDULE

A Critical Path Method Schedule or a Summary Schedule for the Work approved in writing by the Contract Administrator.

4.2.7. AWARD

The written approval of the JEA Awards Committee that the procurement process for the purchase of the Work was in accordance with the JEA Procurement Code and Florida Statutes. Once an Award is approved, JEA will either issue a Purchase Order or execute a Contract with the successful bidder or proposer.

4.2.8. BID DOCUMENTS

The forms required to be submitted to JEA as the Company's offer to perform the Work or Services described herein. The Bid Documents can include, but is not limited to, the Bid Form, Bid Workbook, Minimum Qualifications Form, certifications and/or other required submittals. The Bid Documents may also be referred to as the "Bid Form".

4.2.9. BID OR PROPOSAL

The document describing the Bidder's offer submitted in response to this Solicitation. Bid and Proposal shall be considered synonymous for the purpose of this Contract.

4.2.10. BID PRICE

The total dollar amount of the Bidder's offer to successfully perform the Work or Services in accordance with the Contract Documents.

4.2.11. BIDDER OR PROPOSER

The respondent to this Solicitation. Bidder and Proposer shall be considered synonymous for the purpose of this Solicitation.

4.2.12. CHANGE ORDER

A written order issued after execution of the Contract to the Company signed by the Contract Administrator, or his designated representative, authorizing an addition, deletion, or revision of the Work, or an adjustment in the Contract Price or the Contract Time. Change Orders do not authorize expenditures greater than the monies encumbered by JEA, which is shown on the associated Purchase Order(s). An executed Change Order resolves all issues related to price and time for the Work included in the Change Order. A Change Order that involves a material change to the Contract may result in a Contract Amendment.

4.2.13. COMPANY

The legal person, firm, corporation or any other entity or business relationship with whom JEA has executed the Contract. Where the word "Company" is used it shall also include permitted assigns. Prime Contractor, Contractor, Vendor, Supplier and Company shall be considered synonymous for the purpose of the Contract.

4.2.14. COMPANY REPRESENTATIVE

The individual responsible for representing the Company in all activities concerning the fulfillment and administration of the Contract.

4.2.15. COMPANY SUPERVISOR

The individual, employed or contracted by the Company, to manage the Work on a day-to-day basis and ensure the Work is performed according to the Contract. The Company Supervisor may be authorized by the Company Representative to act on Contract matters. Such authorization shall be in writing and delivered to the Contract Administrator and shall clearly state the limitations of any such authorization. In the event that the Company Supervisor and the Company Representative is the same person, the Company shall notify the Contract Administrator of such situation.

4.2.16. CONTRACT

An agreement between JEA and the Company, signed by both parties, which incorporates all the Contract Documents. The Contract shall not be altered without an Amendment to the Contract and executed by JEA and the Company, or a JEA issued Change Order.

4.2.17. CONTRACT ADMINISTRATOR

The individual assigned by JEA to have authority to administer the Contract, including the authority to negotiate all elements of the Contract with the Company, authorize Change Orders within the maximum amount awarded, terminate the Contract, seek remedies for nonperformance including termination, and otherwise act on behalf of JEA in all matters regarding the Contract. The Contract Administrator may authorize JEA Representative in writing to make minor changes to the Work with the intent of preventing Work disruption.

4.2.18. CONTRACT DOCUMENTS

Contract Documents, also referred to as the "Contract" means the executed Contract, all Solicitation documents and Bid Documents as further described in the Section of the Solicitation titled "Contract Documents", and any written Change Orders, amendments or Purchase Orders executed by JEA, and insurance and/or bonds as required by the Contract.

4.2.19. CONTRACT PRICE

The total amount payable to the Company during the initial Term of the Contract. However, this amount is not a guaranteed amount. Also referred to as the "Maximum Indebtedness" of JEA.

4.2.20. CONTRACT TIME (CONSTRUCTION)

The number of calendar days or the period of time from when the written Purchase Order is issued to the Company to Substantial Completion and Acceptance of the Work.

4.2.21. CONTRACTOR

The legal person, firm, corporation or any other entity or business relationship with whom JEA has executed the Contract. Where the word "Contractor" is used it shall also include permitted assigns. Contractor and Company shall be considered synonymous for the purpose of the Contract.

4.2.22. CRITICAL PATH METHOD (CPM) SCHEDULE

A schematic display of the sequential and logical relationship of all activities that comprise the Work. Using a combination of duration, early and late start dates, and early and late finish dates, a critical path is established as the path of interdependent activities that must be sequentially performed and that require a longer total time to perform than any other such series. CPM Schedules suitable for use on this Contract use GANNT Precedence formats.

4.2.23. CUSTOMER SERVICE PLAN

The Company's plan to achieve customer satisfaction requirements as determined by JEA and JEA Project Outreach, which shall include, as a minimum, the name and office phone number, cell phone number, email address, Nextel Direct Connect number, and fax number of Company's Customer Service Representative, a detailed flow chart on how the Company will handle customer concerns, preemptive customer satisfaction control measures (such as door hangers provided by JEA, and neighborhood meetings in conjunction with JEA staff) and a plan to reduce the number of customer concerns surrounding construction Work addressing, as a minimum, the construction practices that will eliminate damage to customers' property including, but not limited to, cracked driveways, tire ruts in customers' yards, blocking customers' access to driveways, cutting customers' services during tie-in, excessive noise from construction equipment, and elimination of dust during construction Work.

4.2.24. DEFECT

Work that fails to reach Acceptance, or Work that fails meet the requirements of any required test, inspection or approval, and any Work that meets the requirements of any test or approval, but nevertheless does not meet the requirements of the Contract Documents.

4.2.25. ENVIRONMENTAL REGULATIONS

All laws, ordinances, statutes, codes, rules, regulations, agreements, judgments, orders, and decrees, now or hereafter enacted, promulgated, or amended, of the United States, the states, the counties, the cities, or any other political subdivisions in which the Work Location is located, and any other political subdivision, agency or instrumentality exercising jurisdiction over JEA, the Work Location, or the use of the Work Location, relating to pollution, the protection or regulation of human health, natural resources, or the environment, or the emission, discharge, release or threatened release of pollutants, contaminants, chemicals, or industrial, toxic or hazardous substances or waste or Hazardous Materials (as defined in this Contract) into the environment (including, without limitation, ambient air, surface water, ground water or land or soil).

4.2.26. EQUAL ITEM

Item a Bidder chooses to offer in place of offering the brand name or manufacturer's item specified on the Bid Document when the Bid Document clearly states that the Bidder may offer such an item.

4.2.27. FIELD WORK

Actions associated with meeting the requirements of the Contract other than Administrative Work. Field Work is primarily performed at the Work Location.

4.2.28. FINAL COMPLETION

The point in time after JEA makes the determination that the Work is completed and there is Acceptance by JEA, and the Company has fulfilled all requirements of the Contract Documents.

4.2.29. FINAL PAYMENT

The Final Payment for all Work performed. Final Payment shall not be made until the Company has complied with all the Contract requirements, and provided as necessary close-out documents as contained in the Contract.

4.2.30. HAZARDOUS MATERIALS

Any substance which is or contains (i) any "hazardous substance" as now or hereafter defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. '9601 et seq.) ("CERCLA") or any regulations promulgated under or pursuant to CERCLA; (ii) any "hazardous waste" as now or hereafter defined in the Resource Conservation and Recovery Act (42 U.S.C. '6901 et. seq.) ("RCRA") or regulations promulgated under or pursuant to RCRA; (iii) any substance regulated by the Toxic Substances Control Act (15 U.S.C. '2601 et seq.); (iv) gasoline, diesel fuel, or other petroleum hydrocarbons; (v) asbestos and asbestos containing materials, in any form, whether friable or non-friable; (vi) polychlorinated biphenyls; (vii) radon gas; and (viii) any additional substances or materials which are now or hereafter classified or considered to be hazardous or toxic under Environmental Requirements (as hereinafter defined) or the common law, or any other applicable laws relating to the Licensed Property. Hazardous Materials shall include, without limitation, any substance, the presence of which on the Licensed Property, (A) requires reporting, investigation or remediation under Environmental Requirements; (B) causes or threatens to cause a nuisance on the Licensed Property or adjacent property or poses or threatens to pose a hazard to the health or safety of persons on the Licensed Property or adjacent property; or (C) which, if it emanated or migrated from the Licensed Property, could constitute a trespass.

4.2.31. HOLIDAYS

The following days: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve Day, and Christmas Day.

4.2.32. INVOICE

A document seeking payment to Company from JEA for all or a portion of the Work, in accordance with the Contract Documents, and including at a minimum the following items: the Company's name and address, a description of the product(s) or service(s) rendered, a valid JEA PO number, the amount payable, the Unit Price, the payee name and address, any associated JSEB forms and any other supporting documentation required by the Contract Documents.

4.2.33. JEA

JEA on its own behalf, and when the Work involves St. Johns River Power Park (SJRPP), as agent for Florida Power and Light Company (FPL). JEA and FPL are co-owners of SJRPP.

4.2.34. JEA ENGINEER

The individual assigned by JEA (either an employee or a third party) to provide licensing, engineering, design review, and/or construction management including, but not limited to, overseeing and resolving engineering/design issues, conveying JEA's instructions to the Company and enforcing the faithful performance of the Work. The JEA Engineer's authority includes interpreting the technical portion of the Contract Documents, deciding on matters relating to the execution and progress of the Work and evaluating the Company's performance. The JEA Engineer may stop the Work when deemed necessary by JEA. The JEA Engineer will receive and adjudicate any claim of ambiguity or error in the technical portion of the Contract Documents and shall reduce any determination to writing, and the decision shall be final and binding. The JEA Engineer is not a party to the Contract. The JEA Engineer has no authority to approve changes to the Work or Contract, or to commit JEA to any expenditure of money except as expressly designated in writing by the Contract Administrator.

4.2.35. JEA INSPECTOR

The individual(s) or company(ies) designated by the Contract Administrator to inspect and test the Company's performance and Contract compliance including materials, workmanship, safety, environmental compliance, JSEB compliance, project controls, administration and accounting, and other aspects of Contract compliance. The JEA Inspector has no authority to approve changes to the Work or Contract, or to commit JEA to any expenditure of money except as expressly designated in writing by the Contract Administrator.

4.2.36. JEA REPRESENTATIVES

The Contract Administrator, Contract Inspector, Contract Administrator's Representative, JEA Engineer, Field Engineer, Project Manager, and other persons designated by the Contract Administrator as JEA Representatives acting in a capacity related to the Work or Contract under the authority of the Contract Administrator.

4.2.37. LUMP SUM BULK BID PRICE

The total amount payable to the Company under the Contract Documents for performing the bulk bid Work.

4.2.38. MILESTONE

A point in time representing a key or important intermediate event in the Work. A Milestone is to be capable of validation by meeting all of the items prescribed in a defining checklist as agreed to in writing by JEA.

4.2.39. NOTICE TO PROCEED

The written notice, duly authorized and delivered by JEA, that authorizes the Company to begin the Work. The Notice to Proceed is normally issued in the form of a Purchase Order, unless otherwise specified in the Contract Documents.

4.2.40. OVERTIME

Work approved in writing by the Contract Administrator that is required to be performed beyond an employee's scheduled workday or work week, including Work performed on Holidays.

4.2.41. PAYMENT AND PERFORMANCE BONDS

The common-law Performance Bond and the statutory Payment Bond contemplated by Section 255.05, Florida Statutes in the form required by JEA.

4.2.42. PRE-WORK MEETING

A meeting conducted after Award and prior to the start of any Field Work between JEA and the Company. The purpose of the meeting may include, but is not limited to orientation, schedule, certification and permitting, and other preparatory or Work execution details.

4.2.43. PERFORMANCE - ACCEPTABLE PERFORMANCE/PERFORMER

The Company averages more than 2.80 and less than 4.0 across all performance scorecard evaluation metrics, and does not receive a score of less than 2.0 on any metric.

4.2.44. PERFORMANCE - TOP PERFORMANCE/PERFORMER

The Company averages 4.0 or more across all scorecard evaluation metrics and does not receive a score of less than 4.0 on any one metric.

4.2.45. PERFORMANCE - UNACCEPTABLE PERFORMANCE/PERFORMER

The Company averages less than 2.80 across all scorecard evaluation metrics, or scores a 1.0 on any one metric regardless of average, or receives a score of 2.0 on the same metric on two sequential performance evaluations.

4.2.46. PURCHASE ORDER (PO)

A commercial document issued by JEA, authorizing work, indicating types, quantities, and agreed prices for products or services the Company will provide to JEA. Sending a PO to a Company constitutes a legal offer to buy products or services. The words "Purchase Order" are clearly marked across the top, a PO number is used for reference and invoicing purposes, includes an authorized JEA signature, and states the dollar amount of the lawfully appropriated funds.

4.2.47. QUALITY ASSURANCE

Actions that JEA takes to assess the Company's performance under the Contract.

4.2.48. QUALITY CONTROL

Actions that the Company takes to ensure it successfully completes the Work in full accordance with the Contract Documents.

4.2.49. SCHEDULE

All documentation related to the planning and scheduling of the Work as described in these Terms and Conditions.

4.2.50. SHOP DRAWINGS (DEFINITION)

Drawings, electronic and hard copy, that detail the fabrication, erection, layout and setting drawings; manufacturer's standard drawings; schedules; descriptive literature, catalogs and brochures; performance and test data; wiring and control diagrams; all other drawings and descriptive data pertaining to materials, equipment, piping, duct and

conduit systems, and method of construction as may be required to show the JEA Engineer that the proposed materials, equipment or systems and the position thereof are in compliance with the requirements of the Contract Documents.

4.2.51. SOLICITATION

The documents (which may be electronic) issued by JEA's Procurement Department to solicit Bids from Bidders that includes, but is not limited to, the Bid Documents, Bid Workbook, samples of documents, contractual terms and conditions, the Technical Specifications, and associated Addenda.

4.2.52. SUBCONTRACTOR

The legal person, firm, corporation or any other entity or business relationship that provides a portion of the work, or provides supplies and materials, to the Company which has an executed Contract with JEA. JEA is not in privity of contract with the Subcontractor.

4.2.53. SUBSTANTIAL COMPLETION (DEFINITION)

The time when JEA determines that the Work (or a specified part thereof) is substantially complete, in accordance with the Contract Documents. Additionally, all work other than incidental corrective and incidental punch list work items shall be completed. Substantial Completion shall not have been achieved if all systems and parts are not functional, if utilities are not connected and operating normally, if all required regulatory permits and approvals have not been issued, or if all vehicular and pedestrian traffic routes affected by the Work have not been restored. The date of Substantial Completion shall be established in writing by JEA. Recognition of the Work as Substantially Complete, as evidenced by issuance of a Certificate of Substantial Completion, does not represent JEA's Acceptance of the Work.

4.2.54. SUMMARY SCHEDULE

A diagram displaying the Milestones for the Work graphically positioned on a timeline, showing at a minimum the calendar dates on which each Milestone is scheduled to be completed for Acceptance.

4.2.55. SUPPLEMENTAL WORK AUTHORIZATION (SWA)

A written order, issued at the sole discretion of the JEA representative, which incorporates cost or schedule changes into the Contract. The SWA shall be used for increases or decreases in the Contract Price within the SWA amount set forth on the Bid Form, or to make changes in the schedule for performance of the Work, or to authorize the Company to perform changes in the Work.

4.2.56. TASK ORDER

A document that describes the Work or describes a series of tasks that the Company will perform in accordance with the Contract Documents. A Task Order may be issued as an attachment to a Purchase Order, but the Task Order is neither a Purchase Order, nor a Notice to Proceed.

4.2.57. TERM

The period of time during which the Contract is in force or until the Contract's Maximum Indebtedness is reached, whichever occurs first.

4.2.58. UNIT PRICES

The charges to JEA for the performance of each respective unit of Work as stated in the Response Workbook, Bid Form, or Proposal Form, and incorporated into the Contract Documents.

4.2.59. WORK LOCATION (DEFINITION)

The place or places where the Work is performed, excluding the properties of the Company and/or the Subcontractor(s).

4.2.60. WORK OR SCOPE OF SERVICES

Work includes as defined in the Contract Documents all actions, products, documentation, electronic programs, reports, testing, transport, administration, management, services, materials, tools, equipment, and responsibilities to be furnished or performed by the Company under the Contract, together with all other additional necessities that are not specifically recited in the Contract, but can be reasonably inferred as necessary to complete all obligations and fully satisfy the intent of the Contract.

5. CONTRACT DOCUMENTS

5.1. ORDER OF PRECEDENCE

The Contract shall consist of JEA's Contract and/or Purchase Order together with the Solicitation including, but not limited to, the executed Bid Documents, which shall be collectively referred to as the Contract Documents. This Contract is the complete agreement between the parties. Parol or extrinsic evidence will not be used to vary or contradict the express terms of this Contract. The Contract Documents are complementary; what is called for by one is binding as if called for by all. The Company shall inform JEA in writing of any conflict, error or discrepancy in the Contract Documents upon discovery. Should the Company proceed with the Work prior to written resolution of the error or conflict by JEA, all Work performed is at the sole risk of the Company. JEA will generally consider this precedence of the Contract Documents in resolving any conflict, error, or discrepancy:

- o Executed Contract Amendments
- o Exhibits to Contract Documents
- o Executed Contract Documents
- o Purchase Order(s)
- o Addenda to JEA Solicitation
- o Drawings associated with this Solicitation
- o Exhibits and Attachments to this Solicitation
- o Technical Specifications associated with this Solicitation
- o This Solicitation
- o Bid Documents
- o References

The figure dimensions on drawings shall govern over scale dimensions. Contract and detailed drawings shall govern over general drawings. The Company shall perform any Work that may reasonably be inferred from the Contract as being required whether or not it is specifically called for. Work, materials or equipment described in words that, so applied, have a well-known technical or trade meaning shall be taken as referring to such recognized standards.

6. PRICE AND PAYMENTS

6.1. PAYMENT METHOD – SCHEDULE OF VALUES

The Company shall submit to JEA a monthly Application for Payment that details the Work completed during that month. The Company shall request payment in accordance with the amounts/percentages set forth on the Schedule of Values that the Company submitted prior to the start of the Work. The Schedule of Values is defined as an itemized list that establishes the value of each part of the Work for a stipulated price and for major lump sum items in a unit price contract. JEA will reasonably determine, either by measurement or approximation, the final

quantities incorporated into the Work under items for which Unit Prices are established in the Contract Documents. JEA's determination as to the quantity of the Work successfully completed shall be final.

6.2. DISCOUNT PRICING

JEA offers any or all of the following option payment terms, one of which may be executed at the request of the Company by sending an email to the JEA Buyer listed in this Solicitation:

- o 1% 20, net 30
- o 2% 10, net 30

Company may request alternate payment terms for JEA's consideration, however, alternate payment terms are not effective until acceptance by JEA in writing. Please note, all payment dates are calculated from the date of the Invoice receipt by JEA's Accounts Payable.

6.1. OFFSETS

In case the Company is in violation of any requirement of the Contract, JEA may withhold payments that may be due the Company, and may offset existing balances with any JEA incurred costs against funds due the Company under this and any other Company Contract with JEA, as a result of the violation, or other damages as allowed by the Contract Documents and applicable law.

6.2. COST SAVINGS PLAN

During the Term of this Contract, JEA and Company are encouraged to identify ways to reduce the total cost to JEA related to the Work provided by the Company ("Cost Savings Plan"). JEA and Company may negotiate Amendments to this Contract that support and allow such reductions in total costs including, but not limited to, the sharing of savings resulting from implementation of cost-reducing initiatives between JEA and Company. The decision to accept any cost savings plan shall be in the sole discretion of JEA, and JEA shall not be liable to Company for any cost that may be alleged to be related to a refusal to accept a Cost Savings Plan proposed by Company.

6.3. TAXES

JEA is authorized to self-accrue the Florida Sales and Use Tax and is exempt from Manufacturer's Federal Excise Tax when purchasing tangible personal property for its direct consumption.

6.4. GENERAL CONDITIONS/SPECIAL CONDITIONS

The line item shown on the Bid Form titled "General/Special Conditions Lump Sum Price" shall be used for general and special expenses which do not appear as separate line items on the Bid Form, including, but not limited to, costs and expenses related to the following:

- o The execution and recording of the Payment and Performance Bonds
- o Safety requirements
- o Quality Control
- o Preparation of daily reports
- o Maintenance of traffic
- o Attendance of meetings, project scheduling
- o Testing (if not included elsewhere)

Except as provided below for expenses related to Bonds and Surveying, JEA's payment for the General/Special Conditions line item shall be based upon the percentage of Work completed.

Bonds- Company will be permitted to invoice JEA, in its first payment application, for the costs associated with the execution and recording of the Payment and Performance Bonds. The amount paid by JEA for the Payment and Performance Bonds will be deducted from the General/Special Conditions line item total.

Surveying- Prior to construction, the Company will be permitted to invoice JEA for the costs associated with the survey of the existing roadway horizontal alignment. The amount paid by JEA for these costs will be deducted from the General/Special Conditions line item total.

SWA - In the event that JEA authorizes changes to the Work under a Supplemental Work Authorization (SWA), the amount of the Bid Form line item for SWA Allowance will not be increased unless the total value of all SWA Work exceeds the Original SWA Allowance provided on the Bid Form.

6.5. JSEB COMPLIANCE

6.5.1. JSEB - INVOICING AND PAYMENT

If the Company utilizes JSEB certified firms, regardless of whether these Contract Documents require or encourage the use of such firms, the Company shall Invoice for and report the use of JSEB certified firms according to the format and guidelines established by the City of Jacksonville.

7. SCHEDULES, REPORTING REQUIREMENTS

7.1. REPORTING (CONSTRUCTION)

The Company shall provide all reports as defined in the Contract Documents.

Where the reporting frequency is daily, reports shall be submitted by noon of the following workday. Where the reporting frequency is weekly, reports are due by Monday at noon, covering the prior workweek. Where Monday is a Holiday, the reports are due at noon on the next workday. Where reports are due monthly, reports are due by noon on the first business day of each month. Sample forms for reports may be included in the Contract Documents. Where they are included, they are to be used. Where they are not included, the Company shall provide a sample of its proposed report format for each report to the Contract Administrator at least one-week prior to its initial due date. The Contract Administrator will review and either approve or reject use of the report. Where proposed report is rejected, Company shall resubmit revised report formats, until Contract Administrator approves format. Reporting cycle shall begin upon the Purchase Order date, or, if used, the issuance dates of the Notice to Proceed.

Where the Contract calls for reports to be submitted by Company, such reports shall be in both paper and electronic format, with the electronic version submitted electronically via email to the Contract Administrator.

7.2. WORK SCHEDULES

The Approved Schedule is referenced in the Technical Specifications attached to this Solicitation. If no schedule is provided, then the established schedule is based on working five (5) days per week, single shift, eight (8) hours per day or four (4) days per week, single shift, ten (10) hours per day. JEA may require the Company to base its schedule on an accelerated Work schedule or multiple shifts. The Company shall not schedule work on Holidays without obtaining prior written approval from JEA.

The Company shall, at no additional cost to JEA, increase or supplement its working force and equipment and perform the Work on an overtime or multiple shift basis when directed by JEA and upon notification that the Company is behind schedule. The Company shall submit a revised schedule in writing demonstrating the Company's schedule recovery plans.

The Company understands and agrees that the rate of progress set forth in the Approved Schedule already allows for ordinary delays incident to the Work. No extension of the Contract Term will be made for ordinary delays, inclement weather, or accidents and the occurrence of such events will not relieve the Company from requirement of meeting the approved schedule.

7.3. LIQUIDATED DAMAGES UNTIL ACCEPTANCE & INCENTIVE FOR TIMELY COMPLETION

If the Company fails to obtain Substantial Completion of the Work on or before 180 days after date of Notice to Proceed, the Company shall pay JEA the sum of \$500.00 per day for each and every calendar day, including Sundays and Holidays, starting on this day until the date the Work is Substantially Completed.

If the Company fails to obtain JEA's Acceptance of the Work on or before 210 days after date of Notice to Proceed, the Company shall pay JEA the sum of \$500.00 per day for each and every calendar day, including Sundays and Holidays, starting on the day the Work was deemed by JEA to be Substantially Complete until the date the Work is Accepted by JEA.

Liquidated Damages are capped at a maximum of **ten percent (10%)** of the Contract Price.

The Company understands and agrees that said daily sum is to be paid not as a penalty, but as compensation to JEA as a fixed and reasonable liquidated damages for losses that JEA will suffer because of such default, whether through increased administrative and engineering costs, interference with JEA's normal operations, other tangible and intangible costs, or otherwise, which costs will be impossible or impractical to measure or ascertain with any reasonable specificity.

Liquidated damages may, at JEA's sole discretion, be deducted from any monies held by JEA that are otherwise payable to Company.

The Company's responsibility for liquidated damages shall in no way relieve the Company of any other obligations under the Contract.

8. WARRANTIES AND REPRESENTATIONS

8.1. PERFORMANCE OF THE WORK

The Company represents and warrants that it has the full corporate right, power and authority to enter into the Contract and to perform the acts required of it hereunder, and that the performance of its obligations and duties hereunder does not and will not violate any Contract to which the Company is a party or by which it is otherwise bound. The Company warrants that all items provided under the Contract shall be free from Defect and services shall be performed in a professional manner and with professional diligence and skill, consistent with the prevailing standards of the industry. The Company warrants that the Work will meet the functional and performance requirements defined in the Contract.

8.2. WARRANTY (CONSTRUCTION)

Unless otherwise stated herein, the Company unconditionally warrants to JEA for a period of not less than one year from the date of issuance of the Certificate of Substantial Completion, that all Work furnished under the Contract, including but not limited to, materials, equipment, workmanship, and intellectual property, including derivative works will be:

- o Performed in a safe, professional and workman like manner; and
- o Free from Defects in design, material, and workmanship; and

- o Fit for the use and purpose specified or referred to in the Contract; and
- o Suitable for any other use or purpose as represented in writing by the Contractor; and
- o In conformance with the Contract Documents; and
- o Merchantable, new and of first-class quality.

The Company warrants that the Work shall conform to all applicable standards and regulations promulgated by federal, state, local laws and regulations, standards boards, organizations of the Department of State, and adopted industry association standards. If the Work fails to conform to such laws, rules, standards and regulations, JEA may return the Work for correction or replacement at the Company's expense, or return the Work at the Company's expense and terminate the Contract.

If the Company performs services that fail to conform to such standards and regulations or to the warranties set forth in the first paragraph of this Section, the Company shall make the necessary corrections at Company's expense. JEA may correct any services to comply with standards and regulations at the Company's expense if the Company fails to make the appropriate corrections within a reasonable time after notice of the Defect from JEA.

If Work includes items covered under a manufacturer's or Subcontractor's warranty that exceeds the requirements stated herein, Company shall transfer such warranty to JEA. Such warranties, do not in any way limit the warranty provided by the Company to JEA.

If, within the warranty period, JEA determines that any of the Work is defective or exhibit signs of excessive deterioration, the Company at its own expense, shall repair, adjust, or replace the defective Work to the complete satisfaction of JEA. The Company shall pay all costs of removal, transportation, reinstallation, repair, and all other associated costs incurred in connection with correcting such Defects in the Work. The Company shall correct any Defects only at times designated by JEA. The Company shall extend the warranty period an additional twelve (12) months for any portion of the Work that has undergone warranty repair or replacement, but in no case shall the maximum warranty period be extended beyond thirty-six (36) months.

JEA may repair or replace any defective Work at the Company's expense when the Company fails to correct the Defect within a reasonable time of receiving written notification of the Defect by JEA, when the Company is unable to respond in an emergency situation or when necessary to prevent JEA from substantial financial loss. Where JEA makes repairs or replaces defective Work, JEA will issue the Company a written accounting and invoice of all repair work required to correct the Defects.

Where spare parts may be needed, Company warrants that spare parts will be available to JEA for purchase for at least seventy-five percent (75%) of the stated useful life of the product.

The Company's warranty excludes any remedy for damage or Defect caused by abuse, improper or insufficient maintenance, improper operation, or wear and tear under normal usage.

Note that JEA intends to perform a warranty inspection prior to the expiration of the warranty period. JEA will notify the Company and the Company Representative shall attend the inspection. All discrepancies identified at said inspection shall be corrected by the Company within a reasonable timeframe.

9. INSURANCE, INDEMNITY AND RISK OF LOSS

9.1. INSURANCE

INSURANCE REQUIREMENTS

Before starting and until acceptance of the Work by JEA, and without further limiting its liability under the Contract, Company shall procure and maintain at its sole expense, insurance of the types and in the minimum amounts stated below:

Workers' Compensation

Florida Statutory coverage and Employer's Liability (including appropriate Federal Acts); Insurance Limits: Statutory Limits (Workers' Compensation) \$500,000 each accident (Employer's Liability).

Commercial General Liability

Premises-Operations, Products-Completed Operations, Contractual Liability, Independent Contractors, Broad Form Property Damage, Explosion, Collapse and Underground, Hazards (XCU Coverage) as appropriate; Insurance Limits: \$1,000,000 each occurrence, \$2,000,000 annual aggregate for bodily injury and property damage, combined single limit.

Automobile Liability

All autos-owned, hired, or non-owned; Insurance Limits: \$1,000,000 each occurrence, combined single limit.

Excess or Umbrella Liability

(This is additional coverage and limits above the following primary insurance: Employer's Liability, Commercial General Liability, and Automobile Liability); Insurance Limits: \$3,000,000 each occurrence and annual aggregate.

Company's Commercial General Liability and Excess or Umbrella Liability policies shall be effective for two (2) years after Work is complete. The Indemnification provision provided herein is separate and is not limited by the type of insurance or insurance amounts stated above.

Company shall specify JEA as an additional insured for all coverage except Workers' Compensation and Employer's Liability. Such insurance shall be primary to any and all other insurance or self-insurance maintained by JEA. Company shall include a Waiver of Subrogation on all required insurance in favor of JEA, its board members, officers, employees, agents, successors and assigns.

Such insurance shall be written by a company or companies licensed to do business in the State of Florida and satisfactory to JEA. Prior to commencing any Work under this Contract, certificates evidencing the maintenance of the insurance shall be furnished to JEA for approval. Company's and its subcontractors' Certificates of Insurance shall be mailed to JEA (Attn. Procurement Services), Customer Care Center, 6th Floor, 21 West Church Street, Jacksonville, FL 32202-3139.

The insurance certificates shall provide that no material alteration or cancellation, including expiration and non-renewal, shall be effective until thirty (30) days after receipt of written notice by JEA.

Any subcontractors of Company shall procure and maintain the insurance required of Company hereunder during the life of the subcontracts. Subcontractors' insurance may be either by separate coverage or by endorsement under insurance provided by Company. Note: Any JSEB firms identified by Bidders for this Solicitation are considered "Subcontractors" under the direct supervision of the Prime or General Contractor (herein referred to as "Company"). Companies should show good faith efforts in providing assistance to JSEB firms in the securing of the Subcontractors' insurance requirements stated herein. Company shall submit subcontractors' certificates of insurance to JEA prior to allowing Subcontractors to perform Work on JEA's job sites.

9.2. INDEMNIFICATION

For ten dollars (\$10.00) acknowledged to be included and paid for in the contract price and other good and valuable considerations, the Company shall hold harmless and indemnify JEA against any claim, action, loss, damage, injury, liability, cost and expense of whatsoever kind or nature (including, but not by way of limitation, reasonable attorney's fees and court costs) arising out of injury (whether mental or corporeal) to persons, including death, or damage to property, arising out of or incidental to the negligence, recklessness or intentional wrongful misconduct of the Company and any person or entity used by Company in the performance of this Contract or Work performed thereunder. For purposes of this Indemnification, the term "JEA" shall mean JEA as a body politic and corporate and shall include its governing board, officers, employees, agents, successors and assigns. This indemnification shall survive the term of a Contract entered into pursuant to this solicitation, for events that occurred during the Contract term. This indemnification shall be separate and apart from, and in addition to, any other indemnification provisions set forth elsewhere in this Contract.

9.3. TITLE AND RISK OF LOSS

Ownership, risks of damage to or loss of the Work shall pass to JEA upon Acceptance. The Company shall assume all risk of loss or damage to the Work while items are in transit and/or in the Company's custody until such time that JEA issues written notice of Acceptance.

JEA's receipt or delivery of any equipment or other materials will not constitute JEA's Acceptance of the Work and will not constitute a waiver by JEA of any right, claim or remedy. In the event of loss or damage to the Work, the Company shall bear all costs associated with any loss or damage until Acceptance by JEA.

For equipment and materials removed from JEA sites or the Work locations for repairs, service or duplication, JEA will retain the title to equipment and materials removed.

10. TERM AND TERMINATION

10.1. TERM

10.1.1. TERM OF CONTRACT - THROUGH COMPLETION OF WORK

The Contract shall be in force through completion of all Work, Acceptance and final payment, including resolution of all disputes, claims, or suits, if any. Certain provisions of this Contract may extend past termination including, but not limited to, Warranty and Indemnification provisions.

This Contract, after the initial year, shall be contingent upon the existence of lawfully appropriated funds for each subsequent year of the Contract.

10.2. TERMINATION FOR CONVENIENCE

JEA shall have the absolute right to terminate the Contract in whole or part, with or without cause, at any time after the Award effective date upon written notification of such termination.

In the event of termination for convenience, JEA will pay the Company for all disbursements and expenses that the Company has incurred, or has become obligated prior to receiving JEA's notice of termination.

Upon receipt of such notice of termination, the Company shall stop the performance of the Work hereunder except as may be necessary to carry out such termination and take any other action toward termination of the Work that JEA may reasonably request, including all reasonable efforts to provide for a prompt and efficient transition as directed by JEA.

JEA will have no liability to the Company for any cause whatsoever arising out of, or in connection with, termination including, but not limited to, lost profits, lost opportunities, resulting change in business condition, except as expressly stated within these Contract Documents.

10.3. SUSPENSION OF WORK

JEA may suspend the performance of the Work by providing the Company with five (5) days' written notice of such suspension. Schedules and compensation for performance of the Work shall be amended by mutual agreement to reflect such suspension. In the event of suspension of Work, the Company shall resume full performance of the Work when JEA gives written direction to do so. Suspension of Work for reasons other than the Company's negligence or failure to perform, shall not affect the Company's compensation as outlined in the Contract Documents.

10.4. TERMINATION FOR DEFAULT (WITH A BOND)

JEA may give the Company written notice to discontinue all or part of the Work under the Contract or a Notice to Cure a material breach in the event that:

- o The Company assigns or subcontracts the Work without prior written permission;
- o Any petition is filed or any proceeding is commenced by or against the Company for relief under any bankruptcy or insolvency laws;
- o A receiver is appointed for the Company's properties or the Company commits any act of insolvency (however evidenced);
- o The Company makes an assignment for the benefit of creditors;
- o The Company suspends the operation of a substantial portion of its business;
- o The Company suspends the whole or any part of the Work to the extent that it impacts the Company's ability to meet the Work schedule, or the Company abandons the whole or any part of the Work;
- o The Company, at any time, violates any of the conditions or provisions of the Contract Documents, or the Company fails to perform as specified in the Contract Documents, or the Company is not complying with the Contract Documents;
- o The Company attempts to willfully impose upon JEA items or workmanship that are, in JEA's sole opinion, defective or of unacceptable quality;
- o The Company breaches any of the representations or warranties;
- o The Company is determined, in JEA's sole opinion, to have misrepresented the utilization of funds or misappropriate property belonging to JEA; or
- o There is an adverse material change in the financial or business condition of the Company.

If within ten (10) days after service of such notice to discontinue or notice to cure upon the Company an arrangement satisfactory to JEA has not been made by the Company for continuance of the Work or the material breach has not been remedied, JEA may declare the Company to be in default and terminate the Contract.

Once Company is declared in default and the Contract has been terminated, JEA will notify the Surety in writing of the termination. The Surety shall, at JEA's sole option take one (1) of the following actions:

- (a) Within a reasonable time, but in no event later than thirty (30) days, from JEA's written notice of termination for default, arrange for Company with JEA's consent, which shall not be unreasonably withheld, to complete the Contract and the Surety shall pay JEA all losses, delay and disruption damages and all other damages, expenses, costs and statutory attorney's

- fees, including appellate proceedings, that JEA sustains because of a default by the Company under the Contract;
- (b) Within a reasonable time, but in no event longer than sixty (60) days after JEA's written notice of termination for default, award a contract to a completion contractor and issue notice to proceed or alternatively, JEA may elect, to have the Surety determine jointly with JEA the lowest responsible qualified bidder, to have the Surety arrange for a contract between such bidder and JEA, and for the Surety to make available as Work progresses sufficient funds to pay the cost of completion less the balance of the Contract price; or
 - (c) Within a reasonable time, but in no event later than thirty (30) days from JEA's notice of termination for default, JEA may waive its right to complete or arrange for completion of the Contract and, within twenty-one (21) days thereafter, determine the amount for which the Surety may be liable to JEA and tender payment to JEA of any amount necessary in order for JEA to complete performance of the Contract in accordance with its terms and conditions less the balance of the Contract price.

JEA shall have the right to take possession of and use any of the materials, plant, tools, equipment, supplies and property of any kind provided by the Company for the purpose of this Work.

JEA will charge the expense of completing the Work to the Company and will deduct such expenses from monies due, or which at any time thereafter may become due, to the Company. If such expenses are more than the sum that would otherwise have been payable under the Contract, then the Company or Surety shall pay the amount of such excess to JEA upon notice of the expenses from JEA. JEA shall not be required to obtain the lowest price for completing the Work under the Contract, but may make such expenditures that, in its sole judgment, shall best accomplish such completion. JEA will, however, make reasonable efforts to mitigate the excess costs of completing the Work.

The Contract Documents shall in no way limit JEA's right to all remedies for nonperformance provided under law or in equity, except as specifically set forth herein. In the event of termination for nonperformance, the Company shall immediately surrender all Work records to JEA. In such a case, JEA may set off any money owed to the Company against any liabilities resulting from the Company's nonperformance.

JEA has no responsibility whatsoever to issue notices of any kind, including but not limited to deficient performance letters and scorecards, to the Company regarding its performance prior to default by Company for performance related issues.

JEA shall have no liability to the Company for termination costs arising out of the Contract, or any of the Company's subcontracts, as a result of termination for default.

Immediately upon termination or expiration of this Agreement, Company must return to JEA all materials, documents and things used by Company and belonging to JEA, including proposals, computer files, borrower files, building keys, and any other property or information regarding continued business compliance or goodwill, whether in electronic or hard-copy form. Furthermore, upon JEA's request, Company shall certify in writing that all of the foregoing documents or materials, including archival or backup copies, whether in electronic or hard-copy form, have been returned to JEA, deleted from any computer system, or otherwise destroyed.

Any other provision in this Agreement to the contrary notwithstanding the duration of this Agreement after the initial year, shall be contingent upon the existence of lawfully appropriated funds for each subsequent year of the term.

10.5. UNAUTHORIZED WORK

JEA will consider any Work done without lines and grades given, Work done beyond the lines and grades shown on the Contract or as given, or any extra Work done without written authority, as unauthorized Work and will not pay the Company for such Work. If so ordered by the Contract Administrator, the Company shall remove such Work and properly replace it at the Company's own expense.

11. PRELIMINARY MATTERS

11.1. MAINTENANCE OF TRAFFIC

The Company, when required by the governing agency such as the City of Jacksonville or the Florida Department of Transportation (FDOT), shall maintain traffic in accordance with an approved Maintenance of Traffic (MOT) plan ("MOT Plan") submitted by the Company, on streets, roads, private ways, and walks. The Company shall assume full responsibility for the adequacy and safety of provisions made. The Company shall be solely responsible for the placement, maintenance and removal of the minimum number of devices required by the MOT Plan, or specified by the FDOT, for the control of traffic at the Work Location including, but not limited to signs, cones, lights, barricades, concrete barrier walls, police officers, flaggers, etc. ("MOT Items").

Company shall be responsible for all costs associated with MOT. There will not be a separate line item for MOT on the Bid Form.

11.2. LIMITATION OF ACCURACY OF INFORMATIONAL MATERIALS

For all drawings, test results, inspections, and other informational materials included as part of the Contract Documents, the Company understands and agrees that any existing facilities shown, including underground, overhead, and surface structures, and other delineations, and any other informational items provided as part of the Contract Documents are for reference only and are not to be used by the Company as the only indication of Work conditions. The Company understands and agrees that it is its sole responsibility to verify all Work conditions, measurements, dimensions, obstructions and other causes for existing or potential changes to the Work prior to initiating Work. In the event the Work must be changed due to the Company not fulfilling the above requirements, the Company understands and agrees that it will be responsible for all costs associated with the changed condition. Changes associated with conditions that are clearly unforeseen and that could not have been discovered by a reasonable verification of the above listed items, shall be covered as stated in Changes to Work.

11.3. PERMITS TO BE OBTAINED BY THE CONTRACTOR

Unless otherwise specified in the Contract Documents, the Contractor shall secure, maintain, post as required, and pay for all building, plumbing, electrical, water, sewer, right-of-way, parking, roadway, railroad, shipping, freight, hazardous materials, and any other permits which may be required for performance of the Work in full compliance with all applicable laws, rules and regulations. The Contractor shall perform all actions necessary to identify where permits are to be obtained and properly file for the permits, except those specifically listed in the Contract Documents as being provided by JEA.

The Contractor shall comply with all conditions of permits issued for the Work, either directly or indirectly, issued by federal, state, or local governmental agencies, which are hereby incorporated as part of these Contract Documents. The Contractor shall be solely responsible for resolving any issues and bearing all expenses including any damages suffered by JEA that result from a finding of noncompliance during performance of the Work by any of the respective regulatory agencies including, but not limited to, all costs for delays, litigation, fines, fees of any kind, and other costs.

11.4. PRE-WORK MEETING AND PROGRESS MEETINGS (CONSTRUCTION)

Before starting the Field Work, a Pre-Work or Pre-Construction meeting may be held to review procedures for the Work, review the Work schedule, establish procedures for invoicing, approving Invoices and making payments, and establish a working relationship between JEA and the Company.

The JEA Contract Administrator may, at his or her discretion, request Pre-Work Meetings to be held prior to start of any Field Work. Such meeting(s) shall be attended by, but not limited to, the Company Representative and Company Supervisor. The JEA Contract Administrator will notify the Company in writing of the meeting time and location at least two (2) days prior to the meeting date. In addition, construction progress meetings will be held at a frequency as determined by JEA. Such meeting(s) shall be attended by, but not limited to, the Company's Representative and Company's Supervisor.

11.5. TEMPORARY CLOSURE OF ROADWAYS

The Company shall not close or obstruct any portion of a street, road, or private way without first obtaining permits. If any street or private way is rendered unsafe by the Company's operations, the Company shall make such repairs or provide such temporary ways and guards necessary for the protection and safety of persons on the Work and the public and for the orderly maintenance of traffic. All costs associated with temporary closure of roadways shall be included in Bid Price.

The Company shall notify the police and fire departments in writing if it will be necessary to close a street. The Company shall copy JEA on all correspondence relating to street closure. The Company shall notify the police and fire departments prior to closure of the street. The Company shall be responsible for maintaining proper coordination with the proper authorities.

Temporary closure of business entrances must be approved in writing by and coordinated with JEA.

11.6. TEMPORARY UTILITIES

The Company shall furnish and install all temporary water, electricity and other utilities required to accomplish the Work. The Company shall obtain the water required for carrying out the Work from fire hydrants, existing water main connections, or new connections approved by JEA. The Company shall install a back flow preventer and water meter assembly if construction water is necessary. Upon Substantial Completion of Work, the Company shall remove all evidence of temporary connections and lines.

Prior to initiating any construction Work, the Company shall coordinate and schedule the provision of temporary utility service required during construction and arrange for the permanent installation and connection of utilities for the completed Work.

11.7. WORK LOCATION

Work shall be performed at the following location:

Main Street Water Treatment Plant 1210 Clark Street, Jacksonville, FL 32202.

11.8. UNFORESEEN CONDITIONS

The Company understands and agrees that it is its responsibility to conduct due diligence prior to the Work. Such due diligence includes, but is not limited to, verifying all Work conditions, measurements, dimensions and latent and patent obstructions, the accuracy of drawings, test results, inspections and other informational materials provided in the Contract Documents, and any other causes for existing or potential changes to the Work prior to initiating the

Work. In the event that the Work must be changed due to the Company's failure to fulfill the above requirements, the Company understands and agrees that it will be responsible for all costs associated with the changed condition.

In the event, however, that the Company exercises the requisite due diligence and a change to the Work becomes necessary resulting from conditions that are clearly unforeseen and that could not have been discovered, the costs for adjusting the Work in response to such unforeseen conditions shall be addressed in a Change Order or an amendment to the Contract executed by JEA and Company. Any Work the Company performs prior to receipt of such Change Order or approved Contract amendment will be at the Company's sole risk.

11.9. COMMERCIAL ACTIVITIES ON THE WORK LOCATION

The Company shall not establish any commercial activities, or issue concessions or permits of any kind to third parties to establish commercial activities on lands owned or controlled by JEA, or within the boundaries of the Work Location. The Company shall not allow its employees to engage in any commercial activities on the Work Location.

11.10. COMPANY'S EQUIPMENT

The Company's equipment including, but not limited to, trucks, drill rigs, backhoes, excavators, bucket trucks and derricks shall not be older than five (5) years in age, unless the Company can demonstrate to JEA's satisfaction that equipment being used has been completely refurbished and that it is in good working order. JEA may, at its sole discretion, make exceptions for equipment that is rarely used such as sag winches.

11.11. SHIPPING TO AND STORAGE AT WORK LOCATION

Shipping Materials and equipment to be installed by the Company shall be delivered by the Company to the Work Location or such other place as may be designated by the Contract Administrator. Insofar as transportation conditions will allow, items shall be shipped complete and ready for installation.

Where applicable, the Company shall be responsible for obtaining any permits required for transportation to the Work Location. The Company shall provide an Advance Ship Notice to the Contract Administrator or designated Work Location manager.

Storage: Under arrangement with the JEA Engineer, and upon his approval, a limited amount of temporary indoor storage space may be made available, but only for the equipment that must be protected from the weather. Equipment, for which arrangements have been made for indoor storage, shall be packed separately and the container clearly marked "For Indoor Storage." For equipment that will be stored indoors and that will require special storage precautions, the storage instructions shall be shown on the outside of each container, or in a durable envelope identified as containing storage instructions and attached to the container.

11.12. MATERIAL REIMBURSEMENT

JEA will reimburse the Company for the direct cost of material or chemicals furnished by the Company as requested by JEA for the labor, equipment and materials (L.E.M.) project plus **ten percent (10%)** for the Company's handling of the material.

11.13. COMPANY LAYDOWN AREA

In the event the Company decides to utilize public or private property as a laydown area, the Company shall enter into a written agreement with the entity who owns the property. JEA shall have access to all laydown areas. Upon submission of Company's first Invoice or application for payment to JEA, the Company shall provide to JEA a copy of such signed written agreement. The Company shall submit to JEA a letter of release from the entity in connection with Company's final Invoice or application for payment to JEA.

11.14. COMPANY'S DOCUMENTS AT THE WORK LOCATION

The Company shall maintain at the Work Location for JEA one record copy of all Contract Documents in good order and marked currently to record all Addenda and changes made during Contract Term. These shall be available to JEA Representatives and shall be delivered to the Contract Administrator upon completion of the Work and at the request of the Contract Administrator.

The Company shall also maintain detailed records of the Work for its own files. The Company shall make these records available to JEA for inspection upon request. The Company shall maintain such records for three (3) years after date of Final Completion.

11.15. COMPANY'S FIELD OFFICE

The Company shall provide its own office facilities at the Work Location, as required. Unless specifically listed herein, JEA provides no Work Location facilities or Work Location area for the Company facilities of any kind such as field office and material storage. If the Company establishes a Work Location-based office, the Company shall provide and maintain adequate telephone facilities at this office during the full Term of the Contract. If the Company has a local business office, this office may serve as a Work Location office for this Contract, but the Company must maintain an operational cellular phone at the Work Location while performing Work.

11.16. CONFIDENTIALITY AND OWNERSHIP OF DOCUMENTATION

11.16.1. SUNSHINE LAW

General

Article I, Section 24, Florida Constitution, guarantees every person access to all public records and Chapter 119, Florida Statutes, provide a broad definition of public records. JEA is a body politic and corporate and subject to these laws and related statutes ("Florida's Public Records Laws"). All responses to this Solicitation are public records and available for public inspection unless specifically exempt by law.

IF A BIDDER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

JEA

Attn: Public Records

21 West Church Street

Jacksonville, Florida 32202

Phone: 904-665-8606

publicrecords@jea.com

Redacted Submissions

If a Bidder believes that any portion of the documents, data or records submitted in response to this Solicitation are exempt from Florida's Public Records Law, Bidder must (1) clearly segregate and mark the specific sections of the document, data or records as "Confidential," (2) cite the specific Florida Statute or other legal authority for the asserted exemption, and (3) provide JEA with a separate redacted copy of its response (the "Redacted Copy"). The

cover of the Redacted Copy shall contain JEA's title and number for this Solicitation and Bidder's name, and shall be clearly titled "Redacted Copy." Bidder should only redact those portions of records that Bidder claims are specifically exempt from disclosure under Florida's Public Records Laws. If Bidder fails to submit a redacted copy of information it claims is confidential, JEA is authorized to produce all documents, data and other records submitted to JEA in answer to a public records request for such information.

In the event of a request for public records to which documents that are marked as confidential are responsive, JEA will provide the Redacted Copy to the requestor. If a requestor asserts a right to any redacted information, JEA will notify Bidder that such an assertion has been made. It is Bidder's responsibility to respond to the requestor to assert that the information in question is exempt from disclosure under applicable law. If JEA becomes subject to a demand for discovery or disclosure of Bidder's redacted information under legal process, JEA shall give Bidder prompt notice of the demand prior to releasing the information (unless otherwise prohibited by applicable law.) Bidder shall be responsible for defending its determination that the redacted portions of its response are not subject to disclosure.

By submitting a response to this Solicitation, Bidder agrees to protect, defend and indemnify JEA from and against all claims, demands, actions, suits, damages, liabilities, losses, settlements, costs and expenses (including but not limited to reasonable attorney fees and costs) arising from or relating to Bidder's determination that the redacted portions of its response to this Solicitation are not subject to disclosure.

11.16.2. INTELLECTUAL PROPERTY

The Company grants to JEA an irrevocable, perpetual, royalty free and fully paid-up right to use (and such right includes, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right to sublicense all, or any portion of, the foregoing rights to an affiliate or a third party service provider) the Company's intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) that is contained or embedded in, required for the use of, that was used in the production of or is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of any applicable unit of Work.

If the Work contains, has embedded in, requires for the use of any third party intellectual property, or if the third party intellectual property is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of the Work, the Company shall secure for JEA an irrevocable, perpetual, royalty free and fully paid-up right to use all third party intellectual property. The Company shall secure such right at its expense and prior to incorporating any third party intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) into any Work, including, without limitation, all drawings or data provided under the Contract, and such right must include, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right and a right to sublicense all or any portion of the foregoing rights to an affiliate or a third party service provider.

Should JEA, or any third party obtaining such work product through JEA, use the Work or any part thereof for any purpose other than that which is specified herein, it shall be at JEA's sole risk.

The Company will, at its expense, defend all claims, actions or proceedings against JEA based on any allegation that the Work, or any part of the Work, constitutes an infringement of any patent or any other intellectual property right, and will pay to JEA all costs, damages, charges, and expenses occasioned to JEA by reason thereof. JEA will give the Company written notice of any such claim, action or proceeding and, at the request and expense of the Company, JEA will provide the Company with available information, assistance and authority for the defense.

If, in any action or proceeding, the Work, or any part thereof, is held to constitute an infringement, the Company will, within thirty (30) days of notice, either secure for JEA the right to continue using the Work or will, at the Company's expense, replace the infringing items with non-infringing Work or make modifications as necessary so that the Work no longer infringes.

The Company will obtain and pay for all patent and other intellectual property royalties and license fees required in respect of the Work.

11.16.3. PROPRIETARY INFORMATION

The Company shall not copy, reproduce, or disclose to third parties, except in connection with the Work, any information that JEA furnishes to the Company. The Company shall insert in any subcontract a restriction on the use of all information furnished by JEA. The Company shall not use this information on another project. All information furnished by JEA will be returned to JEA upon completion of the Work.

11.16.4. PUBLICITY AND ADVERTISING

The Company shall not take any photographs, make any announcements or release any information concerning the Contract or the Work to any member of the public, press or official body unless prior written consent is obtained from JEA.

11.17. LABOR

11.17.1. NONDISCRIMINATION

The Company represents that it has adopted and will maintain a policy of nondiscrimination against employees or applicants for employment on account of race, religion, sex, color, national origin, age or handicap, in all areas of employee relations, throughout the Term of this Contract. The Company agrees that on written request, it will allow JEA reasonable access to the Company's records of employment, employment advertisement, application forms and other pertinent data and records for the purpose of investigation to ascertain compliance with the nondiscrimination provisions of this Contract; provided however, the Company shall not be required to produce, for inspection, records covering periods of time more than one year from the effective date of this Contract.

The Company shall comply with the following executive orders, acts, and all rules and regulations implementing said orders or acts, which are by this reference incorporated herein as if set out in their entirety:

- o The provisions of Presidential Order 11246, as amended, and the portions of Executive Orders 11701 and 11758 as applicable to Equal Employment Opportunity;
- o The provisions of section 503 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA); and
- o The provisions of the Employment and Training of Veterans Act, 38 U.S.C. 4212 (formerly 2012).

The Company agrees that if any of the Work of this Contract will be performed by a Subcontractor, then the provisions of this subsection shall be incorporated into and become a part of the subcontract.

11.17.2. JEA ACCESS BADGES

If the scope of work described in this Contract requires a Company to access JEA facilities, each Company employee shall apply for a JEA access badge through JEA's Security Department. An appointment to obtain a JEA access badge can be made by contacting JEA Security at securitybadge@jea.com. Finally, JEA does not allow Company employees to share JEA access badges. A Company whose employees are found to be sharing JEA access badges, will result in the Contract being terminated immediately for default. Additionally, JEA shall be notified

within six (6) hours of a lost or stolen JEA security badge or when an employee leaves the Company. Report badge termination notifications to JEA Security at (904) 665-8200.

11.17.3. LEGAL WORKFORCE

JEA shall consider the Company's employment of unauthorized aliens a violation of section 274A(e) of the Immigration and Nationalization Act. Such violation shall be cause for termination of the Contract for default upon thirty (30) days' prior written notice of such termination, notwithstanding any other provisions to the contrary in the Contract Documents.

11.17.4. JEA WORKPLACE TOBACCO USE POLICY

It is JEA's policy to maintain a healthy work environment and JEA's goal is to become a tobacco-free workplace. Therefore, JEA prohibits Company employees from using tobacco products while on JEA property or during the performance of JEA Work. JEA reserves the right to require Company to remove an employee who violates this policy from JEA property or JEA Work site upon notice from the JEA Representative.

11.17.5. PROHIBITED FUTURE EMPLOYMENT

It shall be unlawful and a class C offense for any person, who was an officer or employee of JEA, after his or her employment has ceased, to be employed by or enter into any contract for personal services, with a person or company who contracted with, or had a contractual relationship with JEA, while the contract is active or being completed, or within two years of the cessation, completion, or termination of the person's or company's contractual relationship with JEA, where (1) the contract with JEA had a value that exceeded \$250,000, and (2) the officer or employee had a substantial and decision-making role in securing or negotiating the contract or contractual relationship, or in the approval of financial submissions or draws in accordance with the terms of the contract; except that this prohibition shall not apply to an employee whose role is merely as a review signatory, or to contracts entered into prior to January 1, 2008, or to contracts that have been competitively procured. With respect to this subsection a contract is competitively procured if it has been obtained through a sealed low bid award. A "substantial and decision-making role" shall include duties and/or responsibilities that are collectively associated with: (i) approving solicitation or payment documents; (ii) evaluating formal bids and proposals; and (iii) approving and/or issuing award recommendations for JEA Awards Committee approval. The contract of any person or business entity who hires or contracts for services with any officer or employee prohibited from entering into said relationship shall be voidable at the pleasure of JEA. This prohibition shall not apply to any former officer or employee after two years from cessation from JEA employment.

11.17.6. HIRING OF OTHER PARTY'S EMPLOYEES

Each party recognizes that the other party has incurred or will incur significant expenses in training its own employees and agrees that it will not pursue or hire, without the other party's consent, the other party's employees or the employees of its subsidiaries for a period of two (2) years from the termination date of this Contract.

12. COMPANY'S RESPONSIBILITIES AND PERFORMANCE OF THE CONTRACT

12.1. COMPANY REPRESENTATIVES

The Company shall provide JEA with the name and responsibilities of the Company Representative, in writing after Award of the Contract and before starting the Work under the Contract. Should the Company need to change the Company Representative, the Company shall promptly notify JEA in writing of the change.

12.2. COMPANY REVIEW OF PROJECT REQUIREMENTS

The Company shall review the Work requirements and specifications prior to commencing Work. The Company shall immediately notify the Contract Administrator in writing of any conflict with applicable law, or any error,

inconsistency or omission it may discover. JEA will promptly review the alleged conflicts, errors, inconsistencies or omissions, and issue a Change Order or Purchase Order as appropriate if JEA is in agreement with the alleged conflict, and issue revised specifications. Any Work the Company performs prior to receipt of approved Change Order will be at the Company's sole risk.

12.3. LICENSES

The Company shall comply with all licensing, registration and/or certification requirements pursuant to applicable laws, rules and regulations. The Company shall secure all licenses, registrations and certifications as required for the performance of the Work and shall pay all fees associated with securing them. The Company shall produce written evidence of licenses and other certifications immediately upon request from JEA.

12.4. PERFORMANCE OF THE WORK

The Company represents and warrants that it has the full corporate right, power and authority to enter into the Contract and to perform the acts required of it hereunder, and that the performance of its obligations and duties hereunder does not and will not violate any Contract to which the Company is a party or by which it is otherwise bound. The Company warrants that all items provided under the Contract shall be free from Defect and services shall be performed in a professional manner and with professional diligence and skill, consistent with the prevailing standards of the industry. The Company warrants that the Work will meet the functional and performance requirements defined in the Contract.

12.5. STANDARD REQUIREMENTS FOR CONSTRUCTION

12.5.1. PROTECTION OF THE ENVIRONMENT

The Company and its Subcontractors shall comply with all applicable laws, rules and regulations including, but not limited to, all Environmental Regulations.

A. Asbestos, Lead, or Toxic Mold Notification:

Asbestos, Lead, or Toxic Mold may be present at the Work Location. The Company shall notify the Contract Administrator immediately upon discovery of asbestos, lead, toxic mold. The Company shall not disturb or remove known or discovered asbestos, lead, or toxic mold unless directed by the JEA Representative.

B. Hazardous Materials:

The Company shall bear full responsibility including, but not limited to, payment and liability for the transportation, use, recycling, and disposal of any Hazardous Materials under the Company's control during the performance of the Work. Disposal or recycling of Hazardous Materials shall only be performed at JEA approved facilities. The Company shall provide JEA with appropriate documentation showing proper disposal or recycling of its Hazardous Materials.

The Company shall notify the Contract Administrator in writing of the type, quantity and disposal or recycling method of any hazardous material used during the performance of the Work. The Company shall be solely responsible for the use and disposal or recycling of any such materials. The Company shall submit cleanup procedures to the JEA Representative for review and written approval prior to the use of the hazardous material. In the event that a hazardous material escapes into the environment, the Company shall immediately notify the Contract Administrator in writing of the occurrence and the actions taken. In the event that the Company encounters hazardous materials in the course of construction, the Company shall immediately notify the Contract Administrator verbally, with a written notification to follow. The Contract Administrator shall arrange for disposal by JEA.

JEA has identified and labeled equipment known to contain PCBs. JEA will remove and transport any equipment so identified. The Company shall not remove or transport any equipment containing PCBs. The Company shall immediately notify the JEA Representative of any questionable or unmarked equipment, and the JEA Representative will arrange for testing and identification.

C. Waste Management:

The Company will be solely responsible for the proper management of all waste material, including but not limited to, paints, lubricants, fuels, solvents, drilling mud and materials, construction and demolition debris, used oil and oily waste, land clearing debris, universal waste (mercury containing lamps and devices, batteries, etc.) and other chemicals and hazardous materials used in connection with or generated during the Work, except as specified above. The Company will provide proper containers for waste materials and comply with all applicable laws, rules and regulations in their disposal or recycling. The Company will dispose of or recycle all empty containers off-site as soon as possible.

D. Wetlands:

The Company understands and agrees that the Work Location may include wetlands or other environmentally sensitive areas. The Company shall not enter these areas during the performance of its Work, unless specifically authorized by the Contract Administrator and appropriate state and federal permits have been obtained.

E. Wildlife:

The Company and/or Subcontractor's employees shall not endanger wildlife species or domestic animals of any kind.

F. Violation of Environmental Laws and Permits:

The Company shall immediately cease any activity that causes or results in a violation of JEA's or Company's environmental permits or federal, state and local laws and regulations. Such violation shall immediately be reported to the Contract Administrator verbally, with written notification to follow. All additional costs due to the Company's noncompliance with the applicable environmental permits or Environmental Regulations shall be paid by the Company.

12.5.2. NPDES PERMIT CONFORMANCE

The Company shall obtain all other applicable local, state, and federal permits. It is unlawful to have any discharges that are not composed entirely of storm water (except discharges pursuant to a NPDES permit) to the municipal separate storm water system (MS4). Only non-contaminated water/non-turbid water shall be transported through the MS4. Groundwater discharge (approved by JEA) from dewatering activities may be routed into the storm water system providing that erosion, and transportation of suspended solids to the system is prevented. If contaminated soil or contaminated groundwater is encountered, the dewatering activity shall cease immediately, and the Company shall contact the Florida Department of Environmental Protection and notify the appropriate department of the incident immediately.

12.5.3. NPDES PERMIT CONFORMANCE - DEWATERING

If Company encounters groundwater, the Company shall be responsible for obtaining; a *Generic Permit for Discharge of Produced Ground Water From any Non-Contaminated Site Activity* from the Florida Department of Environmental Protection (FDEP), and a *Noticed General Permit for Short-term Construction Dewatering* from the St. Johns River Water Management District (SJRWMD) before any dewatering activities can begin.

Company shall also be responsible for developing and utilizing a dewatering system(s) to remove water from the excavations. Prior to beginning any dewatering, the Company shall submit a dewatering plan to JEA for review. The

Company shall comply with all sampling requirements listed in FDEP regulation (62-621.300(2) F.A.C.) before any dewatering can begin. The Company shall submit to JEA the sampling analysis results. In the event the sample analysis fails to meet FDEP water quality standards as established in applicable rule, the Company shall not proceed with further permitting or dewatering activities, shall notify JEA of any failure to meet applicable standards, requirements, or rules, and shall await instruction from JEA.

The dewatering plan developed by the Company shall further consider the dewatering volume as estimated using traditional and customary methods. The dewatering plan shall comply with the requirements of 40C-2 and 40C-22, F.A.C., and additional requirements as may be mandated or amended by SJRWMD. In the event the dewatering plan does not comply with those requirements applicable to the *Noticed General Permit for Short-term Construction Dewatering* the Company shall not proceed with further permitting or dewatering activities, shall notify JEA of any failure to meet applicable standards, requirements, or rules, and shall await instruction from JEA.

If the above requirements are not followed, the Company shall be held liable for any fines and/or violations incurred by JEA.

12.5.4. NPDES PERMIT CONFORMANCE - STORMWATER POLLUTION PREVENTION

The Company shall obtain as necessary a *Generic Permit for Stormwater Discharge from Large and Small Construction Activities (CGP)*, and shall develop a Stormwater Pollution Prevention Plan (SWPPP) compliant with local, state, and federal rules, laws, and ordinances. Company shall be responsible for implementing the SWPPP, installing and maintaining in a functional manner structural and nonstructural best management practices as described therein, evaluating the effectiveness of the best management practices, and employing additional performance based best management practices as may be deemed necessary by JEA. The Company, at its own expense, shall revise, or include as addendum to the SWPPP measures as maybe required by a local, state, or federal authority to remain compliant with local, state, and federal rules, laws, and ordinances.

No additional payments shall be made to Company for revisions or addendums to the SWPPP, or for the actual implementation of those revisions on the Work site, including those made so as to achieve functional performance based best management practices.

The Company shall obtain all other applicable local, state, and federal permits subsequent to notification of JEA of the need for such authorization(s). It is unlawful to have any discharges that are not composed entirely of stormwater (except discharges pursuant to a NPDES permit) to the Municipal Separate Stormwater System (MS4). Only non-contaminated water/non-turbid water shall be transported through the MS4. Groundwater discharge (approved by the FDEP pursuant to 62-621.300(2)) from dewatering activities may be routed into the stormwater system, drainage ditch, creek, river or wetland providing that erosion, and transportation of suspended solids to the system is prevented. If contaminated soil or contaminated groundwater is encountered, the dewatering activity shall cease immediately, and the Company shall contact JEA's Environmental Coordinator, Andrew Sears at (904) 665-7719.

All contractors conducting land disturbing activities shall have at least one corporate representative that is certified for the Florida Department of Environmental Protection Erosion and Sediment Control Inspector Training Manual.

For projects with greater than one acre of disturbed land, a person certified pursuant to the Florida Department of Environmental Protection's Erosion and Sediment Control Inspector Training Manual or trained by a certified person shall make the routine inspections shall be maintained and kept on the construction site and made available for inspection during land-disturbing activities. Such inspection shall be made daily and a log of such inspections shall be maintained and kept on the construction site and made available for inspection by City and JEA inspectors throughout the duration of land-disturbing activities. If the inspector is trained by a certified person but not certified them self, accurate training records must be kept and evidence of annual refresher trainer shall be maintained.

Any required erosion and sediment control plans submitted to the City of Jacksonville must conform to the requirements in the FDEP's Florida Department of Environmental Protection's Erosion and Sediment Control Inspector Training Manual or the provisions contained in the Land Development Procedures Manual.

Upon approval to proceed to do so by the Owner, the Company shall complete a *Notice of Termination (NOT)* (DEP Doc. No. 62-621.300(6), F.A.C.), to terminate the CGP coverage within one (1) week of final site stabilization.

If the above requirements are not followed, the Company shall be held liable for any fines and/or violations incurred by JEA.

12.5.5. PREVENTION, CONTROL AND ABATEMENT OF EROSION AND SILTATION

The Company shall take steps and make suitable provisions to minimize siltation and erosion of waterways that may result from its operation during the course of construction.

The Company shall make suitable arrangements, which may require the temporary construction of flumes, boxes, or some other device(s), at the Work Location for the drainage and disposal of water. The Company shall be responsible for protecting adjacent property to the Work Location from damage by water resulting from its operations. The Work Location shall be returned to its original condition to the satisfaction of JEA.

The Company is cautioned that execution or maintenance that creates turbidity and that directly or indirectly affects the water quality of any waterway into which storm water is discharged in such a manner as to exceed the limitations prescribed in the Florida Administrative Code, is a violation of the water quality standards of the State of Florida.

Turbidity shall not exceed 29 NTU's, above background level within 100' of the construction activity. Costs incurred by the Company for compliance to the restrictions outlined above shall be included in the cost of the items for which the turbidity control is required, unless a separate line item is included in the Bid Document for turbidity control. Silt barriers shall be used at all waterway crossings or at any time during construction that siltation or erosion may occur. The Company shall submit to the JEA Engineer, for written approval prior to construction, the method to be used to control the turbidity. The JEA Engineer's approval of the method to be used in no way relieves the Company of the liability in case of a citation against JEA.

12.5.6. SILT FENCE ASSEMBLY

The Company shall furnish and install silt fence assembly (including fabric, stakes, etc.) in accordance with the details shown on the Erosion Control Drawings and as required by the Storm Water Pollution Prevention Plan (SWPPP). Company will be responsible for all costs associated with silt fence assembly. There will not be a separate line item for silt fence assembly on the Bid Form.

13. VENDOR PERFORMANCE EVALUATION

13.1. VENDOR PERFORMANCE EVALUATION

Use of Vendor Performance Evaluation Scorecards

JEA may evaluate the Company's performance using the evaluation criteria shown on the vendor scorecard available online at JEA.com.

Scores for all metrics shown on the evaluation range from a low of 1, meaning significantly deficient performance, to a high of 5, meaning exceptionally good performance. The Company's performance shall be classified as Top

Performance, Acceptable Performance, or Unacceptable Performance, as defined herein. The evaluator will be a designated JEA employee. The evaluator's supervisor and the Chief Purchasing Officer will review deficient performance letters and Unacceptable Performance scorecards, as described below, prior to issuance. When evaluating the Company's performance, JEA will consider the performance of the Company's Subcontractors and suppliers, as part of the Company's performance.

Frequency of Evaluations

JEA may conduct performance evaluations and prepare scorecards in accordance with the procedures described herein at any time during performance of the Work or soon after the completion of the Work. JEA may conduct one or more evaluations determined solely at the discretion of JEA.

Unacceptable Performance

- If at any time, JEA determines, using the criteria described on the scorecard, that the performance of the Company is Unacceptable, the Contract Administrator and Chief Procurement Officer or his designated alternate will notify the Company of such in a letter. The Company shall have ten (10) days to respond to the Contract Administrator. Such response shall include, and preferably be delivered in-person by an officer of the Company, the specific actions that the Company will take to bring the Company's performance up to at least Acceptable Performance.
- Within thirty (30) days from date of the first Unacceptable Performance letter, the Contract Administrator and Chief Purchasing Officer or his designated alternate will notify the Company by letter as to whether its performance, as determined solely by JEA, is meeting expectations, or is continuing to be Unacceptable. If the Company's performance is described in the letter as meeting expectations, no further remedial action is required by the Company, as long as Company's performance continues to be Acceptable.
- If the Company's performance as described in the letter continues to be Unacceptable, or is inconsistently Acceptable, then the Company shall have fifteen (15) days from date of second letter to demonstrate solely through its performance of the Work, that it has achieved Acceptable Performance. At the end of the fifteen (15) day period, JEA will prepare a scorecard documenting the Company's performance from the start of Work, or date of most recent scorecard, whichever is latest, and giving due consideration to improvements the Company has made in its performance, or has failed to make. If the scorecard shows Company's performance is Acceptable, then no further remedial action is required by Company as long as Company's performance remains Acceptable. If the scorecard shows the Company's performance is Unacceptable, JEA will take such actions as it deems appropriate including, but not limited to, terminating the Contract for breach, suspending the Company from bidding on any JEA related solicitations, and other remedies available in the JEA Purchasing Code and in law. Such action does not relieve the Company of its obligations under the Contract, nor does it preclude an earlier termination.
- In the event that the Contract Term or the remaining Term of the Contract does not allow for the completion of the deficient performance notification cycles described above for those in danger of receiving an Unacceptable Performance scorecard, JEA may choose to accelerate these cycles at its sole discretion.
- If the Company receives five (5) or more letters of deficiency within any twelve (12) month period, then JEA will prepare a scorecard describing the deficiencies and the Company's performance will be scored as Unacceptable.

Acceptable Performance

JEA expects the Company's performance to be at a minimum Acceptable.

Disputes

In the event that the Company wants to dispute the results of its scorecard performance evaluation, the Company must submit a letter to the Chief Procurement Officer supplying supplemental information that it believes JEA failed to take into account when preparing the scorecard. Such letter, along with supplemental information, must be submitted no later than ten (10) days following the Company's receipt of the scorecard. If the Chief Procurement Officer decides to change the scorecard, the Company will be notified and a revised scorecard will be prepared, with a copy issued to the Company. If the Chief Procurement Officer decides that no change is warranted, the decision of the Chief Procurement Officer is final. If the Company is to be suspended from consideration for future Award of any contracts, the Company may appeal to the Procurement Appeals Board as per JEA Procurement Code.

Public Records

There can be no expectation of confidentiality of performance-related data in that all performance-related data is subject to disclosure pursuant to Florida Public Records Laws. All scorecards are the property of JEA.

14. JEA RESPONSIBILITIES

14.1. CHANGES IN THE WORK, CONTRACT TIME OR PRICE

14.1.1. AMENDMENTS

This Contract may not be altered or amended except in writing, signed by JEA Chief Procurement Officer, or designee, and the Company Representative, or each of their duly authorized representatives.

14.1.2. FORCE MAJEURE

No party shall be liable for any default or delay in the performance of its obligations under this Contract due to an act of God or other event to the extent that: (a) the non-performing party is without fault in causing such default or delay; (b) such default or delay could not have been prevented by reasonable precautions; and (c) such default or delay could not have been reasonably circumvented by the non-performing party through the use of alternate sources, work-around plans or other means. Such causes include, but are not limited to: act of civil or military authority (including but not limited to courts or administrative agencies); acts of God; war; terrorist attacks; riot; insurrection; inability of JEA to secure approval, validation or sale of bonds; inability of JEA or the Company to obtain any required permits, licenses or zoning; blockades; embargoes; sabotage; epidemics; fires; hurricanes, tornados, floods; or strikes.

In the event of any delay resulting from such causes, the time for performance of each of the parties hereunder (including the payment of monies if such event actually prevents payment) shall be extended for a period of time reasonably necessary to overcome the effect of such delay, except as provided for elsewhere in the Contract Documents.

In the event of any delay or nonperformance resulting from such causes, the party affected shall promptly notify the other in writing of the nature, cause, date of commencement and the anticipated impact of such delay or nonperformance. Such written notice, including Change Orders, shall indicate the extent, if any, to which it is anticipated that any delivery or completion dates will be thereby affected within seven (7) calendar days.

14.2. CHANGE IN THE WORK

To request or claim any change in the Work including, but not limited to change in scope, quantities, pricing, or schedules, the Company shall submit a letter to the Contract Administrator stating such request or claim. JEA shall have the right to approve or disapprove any request or claim for change as it deems necessary and in its best interests consistent with the other Contract requirements. Whether requested by the Company, claimed by the Company, or contemplated by JEA, no change shall be authorized unless made on a JEA Change Order signed by the Contract Administrator or through a formal written amendment to this Contract.

In the event of an emergency endangering life or property where it is appropriate for the Company to take action, the Company shall undertake such actions to preserve life and property. JEA and the Company will determine after emergency is concluded, the extent of out-of-scope work performed by Company, and the Contract Administrator will issue a Change Order or amend the Contract for such work, if any and as necessary.

All requests for changes filed by the Company shall be in writing delivered to the Contract Administrator within 10 working days of when the event that prompted the claim was discovered or should have been discovered. Upon receipt of the Company's claim notification, Contract Administrator will provide written direction as to the procedures that will be used to address the request. The Company's request shall be sufficiently detailed including itemized costs, condition and work descriptions and other information necessary to evaluate the merits of the claim. The Contract Administrator may reject requests providing insufficient supporting information. Any change in the Contract resulting from the request will be incorporated into the Contract via a Change Order or Purchase Order. Where JEA and the Company are unable to reach a mutually acceptable resolution of request, JEA's determination will be final.

Where necessary, JEA will determine the value of work covered by a Change Order using one of the following methods:

- Where the work is covered by established Unit Prices contained in the Contract, the Unit Price will be applied to the quantity of work;
- By mutual acceptance of lump sum price;
- By actual cost and a mutually acceptable fixed amount for overhead and profit, or

Where Bid Price was based on estimates quantities, prior to making final payment, JEA will determine actual quantities using sampling, surveying and other industry recognized means and prepare a Change Order adjusting the price to reflect actual volumes.

The Company shall immediately notify the Contract Administrator in writing of any unauthorized change in the scope of the Work or significant change in the quantities of the Work that may increase the Contract Price, require an extension of Work schedule, or negatively impact permitting or other regulatory requirements.

The Work schedule may be changed only by a Change Order or Purchase Order. The Company's request or claim for a Work schedule adjustment shall be in writing delivered to the Contract Administrator within five (5) working days following the discovery of the event that prompted the claim or when the event should have been discovered. Where accepted by JEA, changes to Work schedule will only adjust for critical path impacts. Failure to include the necessary critical path analysis with request shall be grounds for rejecting the claim. The path of critical events mentioned herein means the series of interdependent Work events that must be sequentially performed and that require a longer total time to perform than any other such series. Upon receipt of the Company's request for a change in the Work schedule, the Contract Administrator will provide any additional directions in writing detailing the procedures that will be used to resolve the request, including provision of time impact or manpower and equipment loading schedules. Where JEA and the Company are unable to reach a mutually acceptable resolution of request, JEA will make a commercially reasonable determination, made in accordance with JEA's Procurement Code, which shall be final.

All Work defined on Change Orders shall be subject to the conditions of the Contract, unless specifically noted on the Change Order.

15. MISCELLANEOUS PROVISIONS

15.1. NO DAMAGE FOR DELAY

Damage, loss, expense or delay incurred or experienced by the Company in the prosecution of the Work by reason of unforeseen circumstances, unanticipated difficulties and obstructions, bad weather, or other mischances that are generally considered to be a part of the usual hazards associated with Work, shall be borne entirely by the Company and shall not be the subject of any claim for additional compensation or change in Approved Schedule.

The Company agrees that its sole remedy for any claims, damages or losses related to any delay, disruption or hindrance alleged to be caused by JEA or any of JEA's agents or other contractors, shall be an extension of the Contract completion date.

Any demand for equitable time adjustment must be served in writing to JEA within five days of the event giving rise to the delay, disruption or hindrance. Any request for an equitable time adjustment shall be accompanied by a logical time impact analysis, demonstrating the nature and magnitude of the event to the critical path.

Failure to strictly comply with these requirements shall be deemed a waiver of any right to seek equitable time adjustment.

In the event the "no damage for delay" clause is inapplicable, there shall be no recovery for home office overhead and any damages claimed shall be proven by discreet accounting of direct project costs and no theoretical formula or industry estimating reference manuals shall be permissible.

15.2. AMBIGUOUS CONTRACT PROVISIONS

The parties agree that this Contract has been the subject of meaningful analysis and/or discussions of the specifications, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in this Contract will not be construed against the party who physically prepared this Contract.

15.3. APPLICABLE STATE LAW; VENUE; SEVERABILITY

The rights, obligations and remedies of the parties as specified under the Contract will be interpreted and governed in all respects exclusively by the laws of the State of Florida without giving effect to the principles of conflicts of laws thereof. Should any provision of the Contract be determined by the courts to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions will not be impaired. Litigation involving this Contract or any provision thereof shall take place in the State or Federal Courts located exclusively in Jacksonville, Duval County, Florida.

15.4. CUMULATIVE REMEDIES

Except as otherwise expressly provided in this Contract, all remedies provided for in this Contract shall be cumulative and in addition to and not in lieu of any other remedies available to either party at law, in equity or otherwise.

15.5. ENTIRE AGREEMENT

This Contract constitutes the entire agreement between the parties. No statement, representation, writing, understanding, or agreement made by either party, or any representative of either party, which are not expressed herein shall be binding. All changes to, additions to, modifications of, or amendment to this Contract, or any of the terms, provisions and conditions hereof, shall be binding only when in writing and signed by the authorized officer, agent or representative of each of the parties hereto.

15.6. EXPANDED DEFINITIONS

Unless otherwise specified, words importing the singular include the plural and vice versa and words importing gender include all genders. The term "including" means "including without limitation", and the terms "include", "includes" and "included" have similar meanings. Any reference in this Contract to any other agreement is deemed to include a reference to that other agreement, as amended, supplemented or restated from time to time. Any reference in the Contract to "all applicable laws, rules and regulations" means all federal, state and local laws, rules, regulations, ordinances, statutes, codes and practices.

15.7. HEADINGS

Headings appearing herein are inserted for convenience or reference only and shall in no way be construed to be interpretations of text.

15.8. INDEPENDENT CONTRACTOR

Company is performing this Contract as an independent contractor and nothing in this Contract will be deemed to constitute a partnership, joint venture, agency, or fiduciary relationship between JEA and Company. Neither Company nor JEA will be or become liable or bound by any representation, act, or omission of the other.

15.9. LANGUAGE AND MEASUREMENTS

All communication between the Company and JEA, including all documents, notes on drawings, and submissions required under the Contract, will be in the English language. Unless otherwise specified in the Contract, the US System of Measurements shall be used for quantity measurement. All instrumentation and equipment will be calibrated in US System of Measures.

15.10. MEETINGS AND PUBLIC HEARINGS

The Company will, upon request by JEA, attend all meetings and public hearings as required, in any capacity, as directed by JEA.

15.11. NEGOTIATED CONTRACT

Except as otherwise expressly provided, all provisions of this Contract shall be binding upon and shall inure to the benefit of the parties, their legal representatives, successors and assigns. The parties agree that they have had meaningful discussion and negotiation of the provisions, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in the Contract shall not be construed against the party who physically prepared this Contract.

15.12. NONEXCLUSIVE

Notwithstanding anything contained herein that may appear to be the contrary, this Contract is "non-exclusive" and JEA reserves the right, in its sole discretion, to retain other companies to perform the Work, and/or JEA may self-perform the Work itself.

15.13. NON-WAIVER

Failure by either party to insist upon strict performance of any of the provisions of the Contract will not release either party from any of its obligations under the Contract.

15.14. REFERENCES

Unless otherwise specified, each reference to a statute, ordinance, law, policy, procedure, process, document, drawing, or other informational material is deemed to be a reference to that item, as amended or supplemented from time to time. All referenced items shall have the enforcement ability as if they are fully incorporated herein.

15.15. SEVERABILITY

In the event that any provision of this Contract is found to be unenforceable under applicable law, the parties agree to replace such provision with a substitute provision that most nearly reflects the original intentions of the parties and is enforceable under applicable law, and the remainder of this Contract shall continue in full force and effect. With regard to any provision in this agreement pertaining to damages, equitable or otherwise, it is the intent of the Parties that under no circumstances shall there be recovery for home office overhead. Any damages claimed shall be proven by discreet accounting of direct project costs and no theoretical formula or industry estimating reference manuals shall be permissible.

15.16. SUBCONTRACTING OR ASSIGNING OF CONTRACT

Each party agrees that it shall not subcontract, assign, delegate, or otherwise dispose of the Contract, the duties to be performed under the Contract, or the monies to become due under the Contract without the other party's prior written consent.

The assignment of the Contract will not relieve either of the parties of any of its obligations until such obligations have been assumed in writing by the assignee. If the Contract is assigned by either of the parties, it will be binding upon and will inure to the benefit of the permitted assignee. The Company shall be liable for all acts and omissions of its assignee or its Subcontractor.

In the event the Company obtains JEA approval to use Subcontractors, the Company is obligated to provide Subcontractors possessing the skills, certifications, registrations, licenses, training, tools, demeanor, motivation and attitude to successfully perform the work for which they are subcontracted. The Company is obligated to remove Subcontractors from performing Work under this Contract when the Company recognizes that a Subcontractor is failing to work in a manner consistent with the requirements of this Contract, or when JEA notifies the Company that JEA has determined a Subcontractor is failing to work in a manner consistent with the requirements of this Contract.

15.17. SURVIVAL

The obligations of JEA and the Company under this Contract that are not, by the express terms of this Contract, to be performed fully during the Term, shall survive the termination of this Contract.

15.18. TIME AND DATE

Unless otherwise specified, references to time of day or date mean the local time or date in Jacksonville, FL. If under this Contract any payment or calculation is to be made, or any other action is to be taken, on or as of a day that is not a regular business day for JEA, that payment or calculation is to be made, and that other action is to be taken, as applicable, on or as of the next day that is a regular business day. Where reference is made to day or days, it means calendar days. Where reference is made to workday, workdays, business day, or business days, it means regular working days for JEA Procurement.

15.19. TIME OF ESSENCE

For every material requirement of this Contract, time is of the essence.

15.20. TITLE TO MATERIALS FOUND

JEA shall retain the title to water, mineral matter, timber and any other materials that the Company, or its Subcontractors, encounters during the excavation or other operations of the Work. The Company shall use or dispose of this material in accordance with the Contract or written instructions from the Contract Administrator. Any materials found in the excavation, or other operations of the Company, that are of archaeological or historical value

shall be left in place. The Company shall immediately notify JEA of the find and shall take no further action until directed by JEA.

15.21. USE OF JEA CONTRACTS BY THE CITY OF JACKSONVILLE

Where the City of Jacksonville's or its other independent agencies' or political subdivisions' procurement codes all use of JEA contracts, the Company agrees to extend any pricing and other contractual terms to such entities.

15.22. WAIVER OF CLAIMS

A delay or omission by JEA to exercise any right or power under this Contract shall not be construed to be a waiver thereof. A waiver by JEA under this Contract shall not be effective unless it is in writing and signed by the party granting the waiver. A waiver by a party of a right under or breach of, this Contract shall not be construed to operate as a waiver of any other or successive rights under, or breaches of, this Contract.

The Company's obligations to perform and complete the Work in accordance with the Contract shall be absolute. None of the following will constitute a waiver of any of JEA's rights under the Contract: approval of payments, including final payment; Certificate of Contract Completion; any use of the Work by JEA; nor any correction of faulty or defective work by JEA.

16. TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK

16.1. TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK (APPENDIX A)

Technical Specifications and a Detailed Scope of Work are located in Appendix A of this document.

103-17 Appendix A Technical Specification

17. FORMS

17.1. FORMS (APPENDIX B)

Forms required to be submitted with this solicitation are provided in Appendix B or can be obtained on the JEA website at www.jea.com.

**TECHNICAL
SPECIFICATIONS
ISSUED FOR BID**

**Main Street Water Treatment Plant
Well No. 15
Production Well Drilling**

JEA

April 2017



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SECTION 01010
SUMMARY OF WORK

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The project consists of the construction of one new raw water production well, designated Well Number (No.) 15, located on JEA-owned property at the northwest corner of East 2nd Street and Clark Street, Jacksonville, Florida.

Well No. 15 shall be drilled into the Floridan aquifer containing fresh water under pressure. Requirements are set forth in these specifications regarding the handling of artesian discharge water, drilling fluids, discharge waters from pump testing, and drill cuttings. Requirements also are set forth for controlling the flow of the well during construction to retain water from drilling and related operations. Drilling fluids shall be managed. All drilling or pumping fluids shall have solids including sand settled out prior to discharging to a near-by storm drain system that leads to a regional storm water retention area, which discharges to the St. Johns River. This requirement shall require a series of settling tanks and possible flocculants to aid in settlement.

- B. The Owner reserves the right to delete any and all parts of the Work described in this Section at their own discretion.
- C. The Work to be performed under this contract consists of furnishing all tools, equipment, materials, supplies, and manufactured articles as well as for furnishing all transportation and services including fuel, power, water, and essential communications and for the performance of all labor, work, and other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The Work shall be complete, and all work, materials and services not expressly shown or called for in the Contract Documents, which may be necessary for the complete and proper construction of the Work in good faith shall be performed, furnished, and installed by the Contractor as though originally so specified or shown, at no increase in cost to the Owner.
- D. The Contractor shall obtain the appropriate well construction permits from the St. Johns River Water Management District (SJRWMD) and shall comply with all permit conditions and reporting requirements.
- E. Wherever the Contract Documents address a third party, i.e., Subcontractor, Manufacturer, etc., it is to be considered the Contractor through a third party.
- F. Within these Specifications, information is often required to be submitted to "Engineer and Owner" At the Pre-Construction Meeting, Owner reserves the right to specify a different communications protocol, e.g. communication to Owner who will distribute to Owner or vice versa.

1.02 OUTLINE SPECIFICATIONS OF PRODUCTION WELL NO. 15

- A. The Contractor must recognize and accept totally that Well No. 15 anticipated construction is dependent on site-specific hydrogeologic conditions and that the depths shown or specified are approximate. Also, the Contractor shall be aware that the sequence of testing such as

geophysical logging and water sampling described in these specifications may be changed in order of occurrence or deleted, and additional testing may be added. The construction sequence may also be changed.

- B. The Well No. 15 installation shall include pilot boring to determine casing seat depths as well as length and depth of the open hole interval. The well shall be completed in the following described general sequence.
- C. Part 1- Construction and Testing of Well No. 15
 - 1. Submit application and procure well construction permit from SJRWMD.
 - 2. Mobilize on site as well as establish temporary power and water supply for drilling.
 - a. Conduct a video survey of the site to document existing site conditions.
 - b. Clear site and establish vertical and horizontal control with reference to NAVD 1988 and NAD 1983, respectively. The Contractor shall have the well location staked in accordance with contract drawings prior to construction.
 - c. Protect existing facilities, install temporary utilities, and install temporary environmental controls including erosion and sedimentation control based on approved the Contractor Site Plan.
 - d. Mobilize drilling rig and provide temporary piping for water supply and disposal of fluids based on the approved fluid management plan by the Contractor in accordance with Section 02855.
 - e. Install appropriate security fencing and barriers to prevent public access to the site and to ensure public health and safety.
 - 3. Furnish and install 36-inch outside diameter (OD), 0.375-inch wall thickness steel surface casing using the mud-rotary techniques or auger method to approximately 35 feet below land surface (bls) and cement in place.
 - 4. Drill out cement plug and drill a 12.25-inch diameter pilot hole using mud-rotary techniques centered at the bottom of the 36-inch diameter OD steel surface casing to a depth of approximately 95± feet bls into the top of the Hawthorn Group using mud rotary drilling techniques. Collect lithological samples at 10-foot intervals and label sample bags.
 - 5. Perform geophysical logging in accordance with Section 02853 in the mud-drilled pilot hole.
 - 6. Ream a nominal 35-inch diameter borehole using the mud-rotary method to approximately 95 feet bls. Contractor shall perform deviation survey in accordance to Section 02851.
 - 7. Furnish and install 30-inch OD, 0.375-inch wall thickness steel intermediate casing to approximately 95 feet bls and cement to surface.
 - 8. Drill out cement plug and drill a 12.25-inch diameter pilot hole centered at the bottom of the 30-inch OD steel casing through the Hawthorn Group to a depth of approximately 530 feet bls using mud-rotary drilling techniques. Collect lithological samples at 10-foot intervals and label sample bags. Contractor shall perform deviation survey in accordance to Section 02851.

9. Perform geophysical logging as per Section 02853 of these Specifications.
10. Ream a nominal 29-inch diameter borehole using the mud-rotary method to approximately 530 feet bls. Contractor shall perform deviation survey in accordance to Section 02851.
11. Perform geophysical logging as per Section 02853 of these Specifications.
12. Furnish and install approximately 530 feet of 20-inch OD, 0.375-inch wall thickness steel final casing and cement in place. The Contractor shall account for a continuous well casing that extends above grade. Refer to the Contract Drawings.
13. Drill out cement plug and drill a nominal 12.25-inch diameter pilot hole centered at the bottom of the 20-inch OD steel final casing to a depth of 1,300 feet bls using reverse air circulation drilling techniques. Collect lithological samples at 10-foot intervals and label sample bags. Collect water quality samples approximately every 30 feet or at the end of each drill rod depth. Contractor shall perform deviation survey in accordance to Section 02851.
14. Develop and perform geophysical logging under static and dynamic conditions in the pilot hole in accordance with Section 02853 of these specifications.
15. Ream a nominal 18-inch diameter borehole using reverse air drilling techniques to approximately 1,300 feet bls. Contractor shall perform deviation survey in accordance to Section 02851.
16. Perform geophysical and video logging as per Section 02853 of these Specifications.
17. Perform plumbness and alignment test on 20-inch OD final steel casing, in accordance to Section 02851.
18. Develop the well utilizing temporary pump capable of pumping up to 3,000 gpm. Develop until well acceptance criteria is met in accordance with Section 02672.
19. Perform step drawdown testing in accordance with Section 02864. Collect groundwater samples and have analyzed in accordance with Section 02863.
20. Demobilize drilling equipment, install secure temporary water tight wellhead and piping, in accordance to Section 02852.
21. Clean and restore disturbed areas around the drilling site.

1.03 NOTIFICATIONS BY CONTRACTOR

- A. Supply to the Owner and Engineer at the pre-construction conference, the proposed work schedule in writing. The proposed work schedule shall include the following:
 1. The starting date of the well construction.
 2. Proposed daily and weekly work schedule.

3. Any anticipated work stoppage greater than 24 hours, except for legal holidays and weekends.
- B. Notify the Owner and Engineer in writing at the pre-construction conference, as to the type of well drilling rig and personnel to be used on the project. Any change in the number of rigs and personnel shall require written notification to the Owner and Engineer, 48 hours prior to the change.
- C. Notify the Owner and Engineer, in writing, ten days prior to the commencement of drilling activities.
- D. No work shall be performed without completing the notification requirements specified above.
- E. Notify the Owner and Engineer of any anticipated temporary shutdowns.
- F. Notify the Owner and Engineer of any proposed changes in daily and weekly work schedule, a minimum of 72 hours prior to the change. Changes in the work schedule are subject to the approval of the Engineer.

1.04 SUBMITTALS BY CONTRACTOR

- A. Submit to the Owner and Engineer shop drawing submittals in accordance to Section 01300 for review and approval prior to related drilling activity. A complete list of construction materials and supplies including the name of the manufacturer, technical data, mill certificates, etc.
- B. The shop drawings to be provided by the Contractor include and are not limited to the following:
 1. Fluid Management Plan with Detailed Drawings
 - a. Closed circulation system (mud rotary drilling)
 - b. Open circulation system (reverse air drilling)
 2. Straightness and Hole Deviation Equipment
 3. Drill Rig, Drill Rods and Compressor
 4. Down Hold Drilling Assemblies
 5. Geophysical Logging
 6. Centralizers
 7. Geolograph
 8. Pressure Regulation (Gauges)
 9. Well Casings (mill certs and tallies)
 10. Cement Mix
 11. Cement Plans for each Grout Stage

12. State Certified Laboratory (Drinking Water Parameters)

13. Plumbness and Alignment Test Equipment

14. Step Drawdown Equipment

15. Flow control header

C. During drilling of the well, a daily detailed driller's report shall be maintained and submitted as requested by the Engineer. The report shall give a complete description of all formations encountered, number of feet drilled, number of hours on the job, shutdown due to breakdown, feet of casing set, depth and amount of fluid loss or gain and other pertinent data requested by the Engineer.

D. Submit well cutting and water samples and analytical results as specified in Sections 02851, 02853, and 02863 of these Specifications.

1.05 PERMITS

A. It shall be the Contractor's responsibility to secure all permits of every description required to initiate and complete the Work under this contract, except permits specifically stated to be obtained by the Owner.

B. The Contractor must obtain written permission from the FDEP for the disposal of its drill cuttings and drilling fluid as well as any other permit required by any other regulatory agency. The Contractor shall also be responsible to call for inspections required by the City and/or the Florida Building Code.

C. No separate or direct payment will be made to the Contractor for permits and inspection requirements, but all such costs shall be included in the applicable items in the Schedule of Values.

D. The Contractor shall furnish to the Owner and Engineer copies of all permits prior to commencement of Work requiring permits.

1.06 FIELD ENGINEERING

A. The Contractor shall employ a Professional Surveyor and Mapper registered in the State of Florida and acceptable to the Owner and Engineer. The Contractor shall locate and protect survey control and reference points.

B. Provide Field Engineering Services: Establish elevations, lines and levels, utilizing recognized Engineering survey practices.

C. Submit a copy of registered site drawing and certificate signed by the Professional Surveyor and Mapper that the elevation and locations of the Work are in conformance with the Contract Documents.

D. Contractor shall provide Project Record Drawings in accordance to Section 01720.

1.07 SUBSURFACE CONDITIONS

- A. The Contractor acknowledges that they have investigated prior to bidding and satisfied their selves as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, tides, water tables, or similar conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor further acknowledges that they have satisfied themselves as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonable ascertainable from an inspection of the site, or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of bids.

It is anticipated that the boreholes will encounter beds of limestone, sandstone, clay, and various amounts of unconsolidated shell and sand to a depth of approximately 95 feet bls. Underlying these sediments are limestones and clayey limestones of the Hawthorn Group making up the Intermediate Confining Unit (ICU) of the Floridan aquifer system (FAS) down to a depth of about 530 feet bls.

Below approximately 530 feet, interbedded layers of limestone and dolomite may be found and cavities, fractured rock, and high permeability zones may be encountered. Permeable zones contain fresh water under pressure and flowing conditions may be present.

Difficult drilling conditions may be encountered including the presence of fractures and cavernous intervals and collapse of borehole walls. The Contractor shall thoroughly familiarize themselves through personnel investigation of the drilling conditions that might be encountered at the Well No. 15 site.

Any failure by the Contractor to acquaint themselves with the available information will not relieve the Contractor from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Owner.

1.08 CONTRACTOR AND SUBCONTRACTOR EQUIPMENT REQUIREMENTS

- A. Furnish equipment in first class working order able to do the described work.
- B. Furnish and operate equipment capable of handling the largest load that will be placed upon the drilling rig during the construction. A minimum of 5.5-inch OD drill rods with a 400 cfm and 200 psi compressors are required for reverse-air drilling.
- C. Be required to furnish a larger drilling rig with the necessary capacity, if conditions develop in the field that prove the rig supplied is incapable of completing the well.
- D. No unnecessary delays or work stoppages will be tolerated because of equipment failures or delay caused by equipment failure will not be considered as a valid reason for extension of the contract time.

- E. Be held responsible and payment withheld for damages to the well or other near-by property due to any cause of negligence, faulty operation, or equipment failure.

1.09 CREW REQUIREMENTS

- A. The Contractor shall employ only competent work persons for the execution of this work and all such work shall be performed under the direct supervision of an experienced well superintendent-tool pusher, who shall be available to the job at all times. The crew and job superintendent shall be in the employ of the Contractor.
- B. The Engineer and Owner reserve the right to have any member of the Contractor's crew removed from the site and project, with or without cause.
- C. The well driller shall be capable of identifying geologic formations, maintaining complete and current well logs and daily notes for the well completion report and developing and testing the wells.
- D. The Owner may make any other investigations deemed necessary to determine the ability of the Contractor to perform the work. The Contractor shall furnish to the Owner all such information and data for this purpose as the Owner may request.
- E. Complete the work described in these Specifications in accordance with (a) AWWA A100 and (b) applicable portions of the Rules of the FDEP, Chapters 62-532 and Chapter 40C-3 of F.A.C.

1.10 OPERATING REQUIREMENTS

- A. Storage and Construction Areas - Storage areas shall be provided within the designated construction and staging area. Responsibility for protection and safekeeping of equipment and materials at or near the sites will be solely that of the Contractor and no claim shall be made against the Owner by reasons of any act of an employee or trespasser. The Contractor shall coordinate with the Owner in selection of storage areas not likely to impede other activities on the site. Should an occasion arise necessitating access to an area occupied by stored equipment and/or materials, the Contractor shall immediately move the stored material. No equipment or materials shall be placed upon the Owner's property until approval has been received from the Owner. Upon completion of the Contract, the Contractor shall remove from the storage areas all of their equipment, temporary fencing, surplus materials, rubbish, etc., and restore the area as designated by the Consultant.
- B. Erosion Abatement and Water Pollution - It is imperative that any Contractor activities, including tests requiring the pumping of water, do not contaminate or disturb the environment of the properties adjacent to the work. The Contractor shall, therefore, schedule and control their operations to confine all runoff water from disturbed surfaces. Water from pumping operations that becomes contaminated with lime silt, muck, and other deleterious matter, fuels, oils, bitumens, chemicals, and other polluting materials shall be disposed of in an environmentally safe manner.
- C. Security - The Contractor shall care for and protect against loss or damage of all material to be incorporated in the construction for the duration of the Project and shall repair or replace damaged or lost materials and damage to structures and equipment. The Contractor is responsible for the security of their personnel and equipment.

1.11 WELL ACCEPTANCE CRITERIA

- A. All casing installed shall be plumb and true to line, in accordance to Sections 02851 and 02852. The deepest anticipated finished well depth is 1,300 bls.
- B. All boreholes shall be constructed so they are straight. No doglegs will be permitted. Reamed holes shall continuously track pilot holes, in accordance to Section 02851.
- C. All casing and grout shall be set to the depths directed by the Owner and Engineer. Alternative depths suggested by the Contractor because of alignment, equipment problems or failure to set the casing to the depth selected by the Owner and Engineer will not be given consideration.
- D. The well must be developed to meet a turbidity of ≤ 1 Nephelometric Turbidity Units (NTU), with a sand content of ≤ 5 part per million (ppm) per AWWA A100-06 using the Rossum Sand Tester.
- E. No payment for the well will be due if the Contractor fails to meet all of the above requirements.

1.12 REMEDIAL WORK

- A. If remedial work proves to be necessary to make a well acceptable and come within the governing regulations and/or Contract Documents because of accident, loss of tools, defective material or for any other cause, the Contractor shall propose a method of correcting the problem, in writing. Suggested methods shall be reviewed and accepted by the Owner and Engineer before work proceeds. Such work shall be performed at no additional cost to the Owner and it shall not extend the length of the Contract. The Contractor is notified that all requirements of the Contract Documents shall be met, including hole straightness and setting of casings to the points designated by the Owner and Engineer.

1.13 ABANDONMENT OF WELL BY CONTRACTOR

- A. Any hole in which the Contractor voluntarily stops work and/or fails to complete in a satisfactory manner, in accordance with the governing regulations and/or Contract Documents shall be considered as abandoned by him. If the Owner declares the hole abandoned by the Contractor, then no payment will be made for the abandoned hole. All abandoned holes shall be properly plugged and sealed by the Contractor at their own cost in accordance with federal, state and local regulations. All salvageable material furnished by the Contractor may be removed and remain their property. The Contractor shall submit, in writing their plan of action for abandonment and plugging. Casings may be removed only with the permission and acceptance of the Owner and Engineer.

1.14 WARRANTY

- A. The Contractor warrants that the work and service to be performed under the Contract and all workmanship, materials, and equipment performed, furnished, used, or installed in the work shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Contract Documents; that the strength of all parts of all manufactured equipment shall be adequate and as specified; and that performance test requirements of the Contract Documents shall be fulfilled. The Contractor shall repair, correct, or replace all damage to the work resulting from failures covered by the warranty. The warranty shall remain in effect for one year from the date of final acceptance by the Owner.

1.15 STANDBY TIME

- A. The Owner or Engineer may order the Contractor to stop their operations so that extra work not included in the Contract Documents such as testing and additional data collection can be performed. The Owner or Engineer will advise the Contractor when they propose to do this and will schedule their request so it causes a minimum of delay. All extra work must be accepted by the Owner, in writing, in advance.

PART 2 PRODUCTS

	Casing Diameter (inches)		Casing Wall Thickness (inches)	Casing Depth (Feet bls)
	Inside	Outside		
Surface Steel Casing	35.25	36.00	0.375	35
Intermediate Steel Casing	29.25	30.00	0.375	95
Final Steel Casing	19.25	20.00	0.375	530

PART 3 EXECUTION (NOT USED)

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SECTION 01025
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE

- A. This Section includes specification for the measurement and payment of the various elements of the Work; with provisions specifically applicable to lump sum prices and unit prices, if applicable.
- B. In the case of conflict between this Section and the measurement methods specified in the individual technical Sections, the measurement methods in the technical specifications shall govern.
- C. The Contractor shall receive no payment for any portion of the work until it is installed. The only exception to this provision is payment for stored materials on site if the Contract provides for the payment of stored materials. Partial payment may be requested for items partially installed.

1.02 RELATED WORK

- A. Schedule of Values is included in Section 01370.
- B. Applications for Payment are included in Section 01152.
- C. General Conditions

1.03 LUMP SUM ITEMS

- A. Lump Sum measurement will be for the entire item, unit of work, structure, or combination thereof, as specified and as indicated in the Bid Form. Measurement and payment for all bid items indicated as Lump Sums shall include the cost of all labor, materials and equipment necessary to furnish, install, clean, test, and place each bid item into operation; including permitting, general conditions, overhead and profit.
- B. Progress payments will be based on the Schedule of Values prepared by the Contractor and approved by the Engineer and Owner before acceptance of the first Application for Payment.
- C. In order for the Contractor to request progress payments against Lump Sum items, Contractor shall provide a disaggregation or breakdown in sufficient measureable detail that is acceptable to the Owner and Engineer.
- D. Measurement
 - 1. Measurement shall be based on the estimated percent complete of each item of the Schedule of Values, as determined by the Engineer.
- E. Payment

1. Payment will be made at the lump sum price proportional to the completion percentages approved by the Engineer.

1.04 UNIT PRICE ITEMS

- A. Quantity and measurement estimates stated in the Schedule of Cost for Changes in Quantities are estimates for bidding purposes only. Actual payments shall be based on actual quantities installed, in-place, as measured and/or verified by the Owner and/or Engineer.
- B. Unless otherwise provided in the General Conditions, the bid unit prices shall be in effect throughout the contract duration, regardless of variances between the estimated quantities and the actual installed quantities.
- C. The Contractor shall make no claim, nor receive any compensation, for anticipated profits, loss of profit, damages, or any extra payment due to any difference between the amounts of work actually completed, or materials or equipment furnished, and the estimated quantities.
- D. Unless otherwise approved by the Owner, any unit quantities exceeded may not be invoiced until the estimated quantity is increased by contract change order.
- E. Contractor shall assist Owner and/or Engineer by providing necessary equipment, workers, and survey personnel as required to measure quantities.
- F. Measured quantities shall be rounded to the nearest whole integer, unless the value of the unit price exceeds \$100, in which case measured quantities shall be rounded to the nearest half unit.
- G. Measurement:
 1. Measurement for progress payment shall be made by, or approved by, the Owner and/or Engineer based on the estimated effective quantity installed. The effective quantity installed represents the actual units or quantities installed, adjusted for incomplete elements or components.
 2. Unless otherwise provided for in the Bid Form unit price items are all-inclusive of all related work, direct and indirect, to provide a complete and functional item. For example, underground pipe installation would include trenching, shoring, dewatering, bedding, installation, backfill, testing, flushing, disinfection, and commissioning; including all labor, materials and equipment necessary to furnish, install, clean, test, and place into operation; including permitting, general conditions, overhead and profit.
 3. The final measurement shall be based on actual quantities, jointly measured by Contractor and Owner and/or Engineer, complete, fully, tested and placed into service.
- H. Payment:
 1. Progress payments shall be in accordance with the contract documents based on estimated effective quantities installed, paid at the bid unit price.
 2. The final payment shall be based on actual quantities, fully installed, tested and placed into service, paid at the bid unit price.

1.05 SCHEDULE OF VALUES

- A. See Section 01152 for detail of submission requirements.
- B. Lump Sum Work:
 - 1. List bonds and insurance premiums, mobilization, demobilization, facility startup, and contract closeout separately.
 - 2. Break down by Division 2 through 16 with appropriate subdivision of each Specification.
- C. An unbalanced or front-end loaded schedule of values will not be acceptable.
- D. Summation of the complete schedule of values representing all the Work shall equal the Contract Price.
- E. Submit schedule of values on compact disks, in a spreadsheet format compatible with latest version of Excel.

1.06 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

- A. Payment will not be made for the following:
 - 1. Loading, hauling, and disposing of rejected material.
 - 2. Quantities of material wasted or disposed of in a manner not called for under Contract Documents.
 - 3. Rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to confirm to provisions of Contract Documents.
 - 4. Material not unloaded from transporting vehicle.
 - 5. Defective work not accepted by the Owner and/or Engineer.
 - 6. Material remaining on hand after completion of Work.

1.07 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

- A. Partial Payment: No partial payments will be made for materials and equipment delivered or stored unless Shop Drawings or preliminary operation and maintenance manuals are acceptable to the Owner and/or Engineer.
- B. Final Payment: Will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to the Contractor unless otherwise agreed, and partial payments made for those items will be deducted for final payment.

PART 2 PRODUCTS LUMP SUM PAY ITEMS

- 2.01 Floridan Production Well No. 15 - Bid Items 1a, 2a, 2c, 3a, 3d, 3h, 3j, 3m, 3o, 3p, 3r, 3s, 3t and 4c. – Payment will be made based as a percentage of completion of the unit quantities to

furnish all labor, material and equipment necessary for the complete drilling and installation of the Floridan Production Well, as required within the contract documents.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01152
APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the Owner and/or Engineer in accordance with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.
- B. The accepted Schedule of Values shall be used as the basis for the Contractor's Application for Payment.
- C. The Contractor shall maintain a copy of all books, records and documents pertinent to the performance under this agreement for a period of five (5) years following completion of the contract.

1.02 RELATED WORK

- A. Agreement between Owner and Contractor.
- B. Standard General Conditions of the Construction Contract.
- C. Schedule of Values is included in Section 01370.

1.03 SUBMITTALS

- A. Submit to the Owner and/or Engineer, applications typed on forms provided by the Owner, Application for Payment, with itemized data typed on 8-1/2-inch by 11-inch or 8-1/2-inch by 14-inch white paper continuation sheets.
- B. Provide itemized data on continuation sheet.
 - 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by the Owner and/or Engineer.
- C. Provide project record drawings.

1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.
- B. Continuation Sheets

1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 - a. Round off values to nearest dollar, or as specified for Schedule of Values.
3. List each Change Order executed prior to date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number and description, as for an original component item of work.
4. To receive approval for payment on component material stored on site, submit copies of the original paid invoices with the application for payment.

1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the Owner and/or Engineer requires substantiating data, submit suitable information, with a cover letter identifying.
 1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
 5. Record drawings must be up to date (red-lined set at construction trailer).
- B. Submit one copy of data and cover letter for each copy of application.
- C. As a prerequisite for payment, submit a "Surety Acknowledgement of Payment Request" letter showing amount of progress payment which the Contractor is requesting.
- D. Maintain an updated set of drawings to be used as record drawings. As a prerequisite for monthly progress payments, exhibit the updated record drawings for review by the Owner and the Engineer.

1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting.
- C. Submit all Project Record Documents in accordance with Sections 01050 and 01720.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01300
SUBMITTALS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section includes the requirements for compiling, processing and transmitting submittals applicable to shop drawings, product data and samples, required for execution of the project. Detailed submittal requirements are specified in the Technical Sections.
- B. All JEA Water & Wastewater Standards (latest edition) equipment, other equipment specified herein, and materials/manufactured products shown and/or specified in these contract documents shall be submitted for review in accordance with this Section.
- C. Submittals are categorized into two types: Action Submittals and Informational Submittals, as follows:
 - 1. Action Submittal: Written and graphic information submitted by the Contractor that requires the Engineer's approval. The following are examples of action submittals:
 - a. Shop drawings (including working drawings and product data);
 - b. Samples;
 - c. Site Usage Plan (Contractor's staging- including trailer sitting and material laydown area);
 - d. Schedule of values; and
 - e. Payment application format.
 - 2. Informational Submittal: Information submitted by the Contractor that is required to be reviewed by the Engineer prior to Work being completed. Engineer will provide review comments that may require revisions. Information submittals will be marked "REVIEWED" by the Engineer when submittal is considered acceptable. The following are examples of informational submittals:
 - a. Shop drawing schedule
 - b. Construction schedule
 - c. Statements of qualifications
 - d. Health and Safety Plans
 - e. Construction photography and videography
 - f. Work plans
 - g. Maintenance of traffic plans
 - h. Outage requests
 - i. Proposed testing procedures
 - j. Test records and reports
 - k. Vendor training outlines/plans
 - l. Test and start-up reports
 - m. Certifications
 - n. Record Drawings
 - o. Record Shop Drawings
 - p. Submittals required by laws, regulations and governing agencies
 - q. Submittals required by funding agencies
 - r. Other requirements found within the technical specifications
 - s. Warranties and bonds

- t. As-built surveys
- u. Contract close-out documents

D. All submittals shall be delivered directly to:

**Office of the Consulting Engineers
CDM Smith
8381 Dix Ellis Trail, Suite 400
Jacksonville, Florida, 32256
Attn: Cheryl Gullotto**

- E. All submittals shall be clearly identified by reference to section number, paragraph, drawings or detail as applicable.
- F. Submittals shall be clean and legible of sufficient size for presentation of data.

1.02 RELATED WORK

- A. Additional requirements may be specified in the Contract.
- B. Additional submittal requirements may be specified in the respective technical Specification Sections.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. All submittals shall be clearly identified as follows:
 - 1. Date of submission
 - 2. Project number
 - 3. Project name
 - 4. Contractor identification
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - d. Manufacturer or supplier representative
 - 5. Identification of the product
 - 6. Reference to Contract drawing(s)
 - 7. Reference to specification section number, page and paragraph(s)
 - 8. Reference to applicable standards, such as ASTM or Federal Standards numbers
 - 9. Indication of Contractor's approval
 - 10. Contractor's Certification statement
 - 11. Identification of deviations from the Contract Documents, if any

12. Reference to previous submittal (for resubmittals)
- B. Submittals shall be clear and legible, and of sufficient size for legibility and clarity of the presented data.
- C. Submittal Log: Maintain a log of all submittals. The submittal log shall be kept accurate and up to date. This log should include the following items (as applicable):
 1. Description
 2. Submittal number
 3. Date transmitted to the Engineer
 4. Date returned to Contractor (from Engineer)
 5. Status of Submittal (Approved/Not Approved/etc.)
 6. Date of Resubmittal to Engineer and Return from Engineer (if applicable and repeat as necessary)
 7. Date material released for fabrication
 8. Projected (or actual) delivery date
- D. Numbering System: Utilize a 9-character submittal identification numbering system in the following manner:
 1. The first character shall be a D, S, M or I which represents Shop Drawing (including working drawings and product data), Sample, Manual (Operating & Maintenance) or Informational, respectively.
 2. The next five digits shall be the applicable Section Number.
 3. The next two digits shall be the numbers 01 to 99 to sequentially number each separate item or drawing submitted under each specific Specification Section, in the order submitted.
 4. The last character shall be a letter, A to Z, indicating the submission (or resubmission) of the same submittal, i.e., "A"=1st submission, "B"=2nd submission, "C"=3rd submission, etc. A typical submittal number would be as follows:
 - a. D-03300-008-B
 - b. D = Shop Drawing
 - c. 03300 = Section for Concrete
 - d. 08 = the eighth different submittal under this section
 - e. B = the second submission (first resubmission) of that particular shop drawing.

E. Variances

1. Notify the Engineer in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.

F. Action Submittals

1. Shop Drawings, Working Drawings, Product Data and Samples, and Professional Engineer (P.E.) Certification Form

- a. Shop Drawings

- 1) Shop drawings as defined in the General Conditions, and as specified in individual Sections include, but are not necessarily limited to, custom prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shop work manufacturing instructions, custom templates, wiring diagrams, coordination drawings, equipment inspection and test reports, including performance curves and certifications, as applicable to the Work.
- 2) Contactor shall verify all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and coordinate each item with other related shop drawings and the Contract requirements.
- 3) All details on shop drawings shall show clearly the relation of the various parts to the main members and lines of the structure and where correct fabrication of the Work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted.
- 4) All shop drawings submitted by subcontractors and vendors shall be reviewed by the Contractor for field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and that it has been coordinated with other related shop drawings and the Contract requirements. Submittals directly from subcontractors or vendors will not be accepted by the Engineer.
- 5) The Contractor shall be responsible the accuracy of the subcontractor's or vendor's submittal; and, for their submission in a timely manner to support the requirements of the Contractor's construction schedule. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractor or vendor to correct before submission to the Engineer. All shop drawings shall be approved by the Contractor.
- 6) Delays to construction due to the untimely submission of submittals will constitute inexcusable delays, for which Contactor shall not be eligible for additional cost nor additional contract time. Inexcusable delays consist of any delay within the Contactor's control.
- 7) Submittals for equipment specified under Divisions 11, 13, 14, 15, and 16 shall include a listing of installations where identical or similar equipment manufactured by that manufacturer has been installed and in operation for a period of at least five years.

- b. Working Drawings

- 1) Detailed installation drawings (sewers, equipment, piping, electrical conduits and controls, HVAC work, and plumbing, etc.) shall be prepared and submitted for review and approval by the Engineer prior to installing such Work. Installation drawings shall be to-scale and shall be fully dimensioned.
- 2) Piping working drawings shall show the laying dimensions of all pipes, fittings, valves, as well as the equipment to which it is being connected. In addition, all pipe supports shall be shown.

- 3) Equipment working drawings shall show all equipment dimensions, anchor bolts, support pads, piping connections and electrical connections. In addition, show clearances required around such equipment for maintenance of the equipment.
 - 4) Electrical working drawings shall show conduits, junction boxes, disconnects, control devices, lighting fixtures, support details, control panels, lighting and power panels, and Motor Control Centers. Coordinate all locations with the Contract Documents and the Contractor's other working drawings.
 - c. Product Data
 - 1) Product data, as specified in individual Specification Sections, include, but are not limited to, the manufacturer's standard prepared data for manufactured products (catalog data), such as the product specifications, installation instructions, availability of colors and patterns, rough-in diagrams and templates, product photographs (or diagrams), wiring diagrams, performance curves, quality control inspection and reports, certifications of compliance (as specified or otherwise required), mill reports, product operating and maintenance instructions, recommended spare parts and product warranties, as applicable.
 - d. Samples
 - 1) Furnish, samples required by the Contract Documents for the Engineer's approval. Samples shall be delivered to the Engineer as specified or directed. Unless specified otherwise, provide at least two samples of each required item. Materials or equipment for which samples are required shall not be used in the Work unless and until approved by the Engineer.
 - 2) Samples specified in individual Specification Sections, include, but are not limited to: physical examples of the Work (such as sections of manufactured or fabricated work), small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols, and other specified units of work.
 - 3) Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify and Contract Requirements.
 - 4) Approved samples not destroyed in testing shall be sent to the Engineer or stored at the site of the Work. Approved samples of the hardware in good condition will be marked for identification and may be used in the Work. Materials and equipment incorporated in Work shall match the approved samples. Samples which fail testing or are not approved will be returned to the Contractor at his expense, if so requested at time of submission.
 - e. Professional Engineer (P.E.) Certification Form
 - 1) If specifically required in any of the technical Specification Sections, submit a Professional Engineer (P.E.) Certification for each item required, using the form appended to this Section, signed and sealed by the P.E. licensed or registered in the state wherein the Work is located.
2. Contractor's Certification
 - a. Each shop drawing, working drawings, product data, and sample shall have affixed to it the following Certification Statement:
 - 1) "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."

- b. Shop drawings, working drawings, and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The transmittal cover sheet for each identified shop drawing shall fully describe the packaged data and include a listing of all items within the package.
3. The review and approval of shop drawings, working drawings, product data, or samples by the Engineer shall not relieve the Contractor from the responsibility for the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor and the Engineer will have no responsibility therefore.
4. Project Work, materials, fabrication, and installation shall conform to approved shop drawings (including working drawings and product data) and applicable samples.
5. No portion of the Work requiring a shop drawing (including working drawings and product data) or sample shall be started, nor shall any materials be fabricated or installed before approval of such item. Procurement, fabrication, delivery or installation of products or materials that do not conform to approved shop drawings shall be at the Contractor's risk. Furthermore, such products or materials delivered or installed without approved shop drawings, or in non-conformance with the approved shop drawings will not be eligible for progress payment until such time as the product or material is approved or brought into compliance with approved shop drawings. Neither the Owner nor Engineer will be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
6. Schedule of Values
 - a. On projects consisting of lump sums (in whole or in part) submit a proposed schedule of values providing a breakdown of lump sum items into reasonably small components – generally disaggregated by building, area, and/or discipline. The purpose of the schedule of values is for processing partial payment applications. If requested by the Engineer, provide sufficient substantiation for all or some items as necessary to determine the proposed schedule of values is a reasonable representation of the true cost breakdown of the Work. The schedule of values shall not be unbalanced to achieve early payment or over-payment in excess of the value of Work or any other mis-distribution of the costs. If, in the opinion of the Owner and/or Engineer, the schedule of values is unbalanced, Contractor shall reallocate components to achieve a balanced schedule acceptable to Engineer.
7. Payment Application Format
 - a. If an application form is included in the Contract Documents, use that form unless otherwise approved by the Engineer and Owner. If an application form is not included in the Contract Documents, Contractor may propose a form for approval.
8. Site Usage
 - a. Submit a proposed site staging plan, including but not limited to the location of office trailers, storage trailers and material laydown. Such plan shall be a graphic presentation (drawing) of the proposed locations; and, shall include on-site traffic modifications, and temporary utilities, as may be applicable.

G. Informational Submittals

1. Shop Drawing Schedule
 - a. Prepare and submit a schedule indicating when shop drawings are required to be submitted to support the as-planned construction schedule. The submittal schedule shall allow sufficient time for preparation and submittal, review and approval, and fabrication and delivery to support the construction schedule.
2. Construction Schedule
 - a. Prepare and submit construction schedules and monthly status reports as specified.
3. Statements of Qualifications
 - a. Provide evidence of qualification, certification, or registration, as required in the Contract Documents, to verify qualifications of licensed land surveyor, professional engineer, materials testing laboratory, specialty subcontractor, technical specialist, consultant, specialty installer, and other professionals.
4. Health and Safety Plans
 - a. When specified, prepare and submit a general company Health and Safety Plan (HSP), modified or supplemented to include job-specific considerations.
5. Construction Photography and Videography
 - a. Provide periodic construction photographs and videography as specified– including but not limited to preconstruction photographs and/or video, monthly progress photos and/or video and post-construction photographs and/or video.
6. Work Plans
 - a. Prepare and submit copies of all work plans needed to demonstrate to the Owner that Contractor has adequately thought-out the means and methods of construction and their interface with existing facilities.
7. Maintenance of Traffic Plans
 - a. Prepare maintenance of traffic plans where and when required by the Contract Documents and by local ordinances or regulations. If Contractor is not already knowledgeable about local ordinances and regulations regarding maintenance of traffic requirements, become familiar with such requirements and include all costs for preparation and submittal of traffic management plans and all associated costs for permits and fees to implement the traffic management plan, in the bid amount. In addition, unless a supplemental payment provision is provided in the bid form, include the cost of police attendance, when required.
8. Outage Requests
 - a. Provide sufficient notification of any outages required (electrical, flow processes, etc.) as may be required to tie-in new work into existing facilities. Unless specified otherwise elsewhere, a minimum of seven calendar days' notice shall be provided.
9. Proposed Testing Procedures
 - a. Prepare and submit testing procedures it proposes to use to perform testing required by the various technical specifications.

10. Test Records and Reports
 - a. Provide copies of all test records and reports as specified in the various technical specifications.
11. Vendor Training Outlines/Plans
 - a. At least two weeks before scheduled training of Owner's personnel, provide lesson plans for vendor training in accordance with the specification for O&M manuals.
12. Test and Start-Up Reports
 - a. Manufacture shall perform all pre-start-up installation inspection, calibrations, alignments, and performance testing as specified in the respective Specification Section. Provide copies of all such test and start-up reports.
13. Certifications
 - a. Provide various certifications as required by the technical specifications. Such certifications shall be signed by an officer (of the firm) or other individual authorized to sign documents on behalf of that entity.
 - b. Certifications may include, but are not limited to:
 - 1) Welding certifications and welders' qualifications
 - 2) Certifications of Installation, Testing and Training for all equipment;
 - 3) Material Testing reports furnished by an independent testing firm
 - 4) Certifications from manufacturer(s) for specified factory testing
 - 5) Certifications required to indicate compliance with any sustainability or LEEDS accreditation requirements indicated in the Contract Documents
14. Record Drawings
 - a. No later than Substantial Completion, submit a record of all changes during construction not already incorporated into drawings – in accordance with Section 01700 and Section 01720. Contractor shall submit minimum 5 draft and final hard copies as-built drawings and corresponding AutoCAD file.
15. Record Shop Drawings
 - a. Before final payment is made, furnish one set of record shop drawings to the Engineer. These record shop drawings shall be in conformance with the approved documents and should show any field conditions which may affect their accuracy.
16. Submittals Required By Laws, Regulations And Governing Agencies
 - a. Prepare and submit all documentation required by state or local law, regulation or government agency directly to the applicable agency. This includes, but is not limited to, notifications, reports, certifications, certified payroll (for projects subject to wage requirements) and other documentation required to satisfy all requirements. Provide to Engineer one copy of each submittal made in accordance with this paragraph.
17. Submittals Required by Funding Agencies
 - a. Prepare and submit all documentation required by funding agencies. This includes, but is not limited to segregated pay applications and change orders when required to properly allocate funds to different funding sources; and certified payrolls for projects subject to wage requirements. Provide one copy of each submittal made in accordance with this paragraph to the Engineer.

18. Other Requirements of the Technical Specification Sections
 - a. Comply with all other requirements of the technical specifications.
19. Warranties and Bonds
 - a. Assemble a book(let) of all warranties and bonds as specified in the various technical specifications and in accordance with the specification on Warranties and Bonds and provide to the Engineer.
20. As-Built Surveys
 - a. Engage the services of a licensed land surveyor in accordance with the Project Controls specification. Prior to Final Completion, provide an as-built survey of the constructed facility, as specified.
21. Contract Close-Out Documents
 - a. Submit Contract documentation as indicated in the specification for Contract Close-out.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SUBMITTAL SCHEDULE

- A. Provide an initial submittal schedule at the pre-construction meeting for review by Owner and Engineer. Incorporate comments from Owner or Engineer into a revised submittal schedule.
- B. Maintain the submittal schedule and provide sufficient copies for review by Owner and Engineer. An up-to-date submittal schedule shall be provided at each project progress meeting.

3.02 TRANSMITTALS

- A. Prepare separate transmittal sheets for each submittal. Each transmittal sheet shall include at least the following: Contractor's name and address, Owner's name, project name, project number, submittal number, description of submittal and number of copies submitted.
- B. Submittals shall be transmitted or delivered directly to the office of the Engineer, as indicated in the Contact Documents or as otherwise directed by the Engineer.
- C. Provide copies of transmittals (only, i.e., without copies of the respective submittal) directly to the Owner's representative, if so requested.

3.03 PROCEDURES

- A. Action Submittals
 1. Contractor's Responsibilities
 - a. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related Work or other applicable activities, or within the time specified in the individual Work of other related Sections, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required). Coordinate with other submittals, testing, purchasing, fabrication, delivery

and similar sequenced activities. Extensions to the Contract Time will not be approved for the Contractor's failure to transmit submittals sufficiently in advance of the Work.

- b. The submittals of all shop drawings (including working drawings and product data) shall be sufficiently in advance of construction requirements to allow for possible need of re-submittals, including the specified review time for the Engineer.
- c. No less than 30 calendar days will be required for Engineer's review time for shop drawings and O&M manuals involving only one engineering discipline. No less than 45 calendar days will be required for Engineer's review time for shop drawings and O&M manuals that require review by more than one engineering discipline. Resubmittals will be subject to the same review time.
- d. Before submission to the Engineer, review shop drawings as follows:
 - 1) Make corrections and add field measurements, as required;
 - 2) Use any color for its notations except red (reserved for the Engineer's notations) and black (to be able to distinguish notations on black and white documents);
 - 3) Identify and describe each deviation or variation from Contract documents;
 - 4) Include the required Contractor's Certification statement;
 - 5) Provide field measurements (as needed);
 - 6) Coordinate with other submittals;
 - 7) Indicate relationships to other features of the Work; and
 - 8) Highlight information applicable to the Work and/or delete information not applicable to the Work.
- e. Submit the following number of copies:
 - 1) Shop drawings (including working drawings and product data) – Submit eight;
 - 2) Samples – three copies;
 - 3) Site Usage Plan – three copies;
 - 4) Product Data –three copies;
 - 5) Schedule of values – four copies; and
 - 6) Payment application format – four copies.
- f. If Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, provide written notice thereof to the Engineer immediately; and do not release for manufacture before such notice has been received by the Engineer.
- g. When the shop drawings have been completed to the satisfaction of the Engineer, carry out the construction in accordance therewith; and make no further changes therein except upon written instructions from the Engineer.

2. Engineer's Responsibilities

- a. Engineer will not review shop drawings (including working drawings and product data) that do not include the Contractor's approval stamp. Such submittals will be returned to the Contractor, without action, for correction.
- b. Partial shop drawings (including working drawings and product data) will not be reviewed. If, in the opinion of the Engineer, a submittal is incomplete, that submittal will be returned to the Contractor for completion. Such submittals may be returned with comments from Engineer indicating the deficiencies requiring correction.
- c. If shop drawings (including working drawings and product data) meet the submittal requirements, Engineer will forward copies to appropriate reviewer(s). Otherwise, noncompliant submittals will be returned to the Contractor without action - with the Engineer retaining one copy.
- d. Submittals which are transmitted in accordance with the specified requirements will be reviewed by the Engineer within the time specified herein. The time for review will commence upon receipt of submittal by Engineer.

3. Review of Shop Drawings (Including Working Drawings and Product Data) and Samples
 - a. The review of shop drawings, working drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 - 1) as permitting any departure from the Contract requirements;
 - 2) as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials; and
 - 3) As approving departures from details furnished by the Engineer, except as otherwise provided herein.
 - b. The Contractor remains responsible for details and accuracy, for coordinating the Work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
 - c. If the shop drawings (including working drawings and product data) or samples as submitted describe variations and indicate a deviation from the Contract requirements that, in the opinion of the Engineer are in the interest of the Owner and are so minor as not to involve a change in Contract Price or Contract Time, the Engineer may return the reviewed drawings without noting an exception.
 - d. Only the Engineer will utilize the color "RED" in marking submittals.
 - e. Shop drawings will be returned to the Contractor with one of the following codes.
 - 1) Code 1 – "APPROVED" – This code is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.
 - 2) Code 2 - "APPROVED AS NOTED" - This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
 - 3) Code 3 - "APPROVED AS NOTED/CONFIRM" - This combination of codes is assigned when a confirmation of the notations and comments is required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Engineer within 15 calendar days of the date of the Engineer's transmittal requiring the confirmation.
 - 4) Code 4 - "APPROVED AS NOTED/RESUBMIT" - This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the entire package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Engineer within 30 calendar days of the date of the Engineer's transmittal requiring the resubmittal.
 - 5) Code 5 – "NOT APPROVED" – This code is assigned when the submittal does not meet the intent of the contract documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the requirements of the contract documents.
 - 6) Code 6 – "COMMENTS ATTACHED" – This code is assigned where there are comments attached to the returned submittal, which provide additional data to aid the Contractor.
 - 7) Code 7 – "RECEIPT ACKNOWLEDGED (Not subject to Engineer's Review or Approval)" – This code is assigned to acknowledge receipt of a submittal that is not subject to the Engineer's review and approval, and is being filed for

informational purposes only. This code is generally used in acknowledging receipt of means and methods of construction work plans, field conformance test reports, and health and safety plans.

- 8) Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.
 - f. Repetitive Reviews: Shop drawings, O&M manuals and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at the Contractor's expense. Reimburse the Owner for all costs invoiced by Owner for the third and subsequent reviews.
4. Electronic Transmission
 - a. Action Submittals may be transmitted by electronic means provided the following conditions are met:
 - 1) The above-specified transmittal form is included;
 - 2) All other requirements specified above have been met including, but not limited to, coordination by the Contractor, review and approval by the Contractor, and the Contractor's Certification;
 - 3) The submittal contains no pages or sheets large than 11 x 17 inches;
 - 4) With the exception of the transmittal sheet, the entire submittal is included in a single file;
 - 5) The electronic files are PDF format (with printing enabled);
 - 6) In addition, transmit three hard-copy (paper) originals to the Engineer;
 - 7) The Engineer's review time will commence upon receipt of the hard copies of the submittal; and
 - 8) For Submittals that require certification, corporate seal, or professional embossment (i.e., P.E.s, Surveyors, etc.) transmit at least two hard-copy originals to the Engineer. In addition, provide additional photocopied or scanned copies, as specified above, showing the required certification, corporate seal, or professional seal.

B. Informational Submittals

1. Contractor's Responsibilities
 - a. Number of copies: Submit three copies, unless otherwise indicated in individual Specification sections.
 - b. Refer to individual technical Specification Sections for specific submittal requirements.
2. Engineers' Responsibilities
 - a. The Engineer will review each informational submittal within 15 days. If the informational submittal complies with the Contract requirements, Engineer will file for the project record and transmit a copy to the Owner. Engineer may elect not to respond to Contractor regarding informational submittals meeting the Contract requirements.
 - b. If an informational submittal does not comply with the Contract requirements, Engineer will respond accordingly to the Contractor within 15 days. Thereafter, the Contractor shall perform the required corrective action, including retesting, if needed, until the submittal, in the opinion of the Engineer, is in conformance with the Contract Documents.
3. Electronic Transmission

- a. Informational Submittals may be transmitted by electronic means providing all of the following conditions are met:
 - 1) The above-specified transmittal form is included.
 - 2) The submittal contains no pages or sheets large than 11 x 17 inches.
 - 3) With the exception of the transmittal sheet, the entire submittal is included in a single file.
 - 4) The electronic files are PDF format (printing enabled).
 - 5) For Submittals that require certification, corporate seal, or professional embossment (i.e., P.E.s, Surveyors, etc.), transmit two hard-copy originals to the Engineer.

END OF SECTION

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a professional engineer registered in the State of Florida and that he/she has been employed by

_____ to design
(Name of Contractor)

(Insert P.E. Responsibilities)

In accordance with Specification Section _____ for the

(Name of Project)

The undersigned further certifies that he/she has performed the said design in conformance with all applicable local, state and federal codes, rules and regulations; and, that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

(Insert Name of Owner)

or Owner's representative within seven days following written request therefore by the Owner.

P.E. Name

Contractor's Name

Signature

Signature

Address

Title

Address

SECTION 01370
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit a Schedule of Values allocated to the various portions of the work, within 21 days after the effective date of the Agreement.
- B. Upon request of the Engineer, support the values with data which will substantiate their correctness.
- C. The accepted Schedule of Values shall be used only as the basis for the Contractor's Applications for Payment.

1.02 RELATED REQUIREMENTS

- A. Standard General Conditions of the Construction Contract are included in Division E.
- B. Application for Payment is included in Section 01152.

1.03 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Type schedule on an 8-1/2-inch by 11-inch or 8-1/2-inch by 14-inch white paper furnished by the Owner; Contractor's standard forms and automated printout will be considered for approval by the Engineer upon Contractor's request. Identify schedule with:
 - 1. Title of Project and location.
 - 2. Engineer and Project number.
 - 3. Name and Address of Contractor.
 - 4. Contract designation.
 - 5. Date of submission.
- B. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- C. Identify each line item with the number and title of the respective Section.
- D. For each major line item list sub-values of major products or operations under the item.
- E. For the various portions of the work:
 - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.

2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials upon request by the Engineer.
 - b. The total installed value.

F. The sum of all values listed in the schedule shall equal the total Contract Sum.

1.04 SUBSCHEDULE OF UNIT MATERIAL VALUES

- A. Submit a sub-schedule of unit costs and quantities for:
 1. Products on which progress payments will be requested for stored products.
- B. The form of submittal shall parallel that of the Schedule of Values, with each item identified the same as the line item in the Schedule of Values.
- C. The unit quantity for bulk materials shall include an allowance for normal waste.
- D. The unit values for the materials shall be broken down into:
 1. Cost of the material, delivered and unloaded at the site, with taxes paid.
 2. Copies of invoices for component material shall be included with the payment request in which the material first appears.
 3. Paid invoices shall be provided with the second payment request in which the material appears or no payment shall be allowed and/or may be deleted from the request.
- E. The installed unit value multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SCOPE

- A. The Contractor shall keep and maintain, at the job site, a copy of contract documents marked up to indicate all changes made during the course of the Project, as specified herein, and as specified in the JEA Water & Wastewater Standards (January 2016 or latest), As-Built Drawings – Section 501.

1.02 RELATED REQUIREMENTS

- A. Record shop drawings are included in Section 01300.

1.03 REQUIREMENTS INCLUDED

- A. Contractor shall maintain a record copy of the following documents, marked up to indicate all changes made during the course of a project:

- 1. Contract Drawings
- 2. Record Drawings
- 3. Specifications
- 4. Addenda
- 5. Change orders and other modifications to the contract
- 6. Engineer's and Owner's field orders or written instructions
- 7. Approved shop drawings, working drawings, and samples
- 8. Field test records
- 9. Construction photographs

- B. Contractor shall assemble copies of the following documents for turnover to the Owner and/or Engineer at the end of the project, as specified.

- 1. Field Orders, Change Orders, Design Modifications, and RFIs
- 2. Field Test records
- 3. Permits and permit close-outs (final approvals)
- 4. Certificate of Occupancy or Certificate of Completion, as applicable
- 5. Laboratory test reports
- 6. Certificates of Compliance for materials and equipment

7. Record Shop Drawings (includes certified As-Built Survey)

8. Samples

C. Record Drawings

1. The Contractor shall annotate (mark-up) the Contract Drawings to indicate all project conditions, locations, configurations, and any other changes or deviations that vary from the original Contract Drawings. The record information added to the drawings may be supplemented by detailed sketches, if necessary, clearly indicating, the Work, as constructed.
2. These annotated Contract Drawings constitute The Contractor's Record Drawings and are actual representations of as-built conditions, including all revisions made necessary by change orders, design modifications, requests for information and field orders.
3. Record drawings shall be accessible to the Owner and Engineer at all times during the construction period.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
 1. Provide files and racks for storage of the record documents.
 2. Provide locked cabinet(s) or secure storage space for storage of samples.
- B. File documents and samples in accordance with Construction Specifications Institute (CSI) format.
- C. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and sample available for inspection by the Engineer or Owner at all times.
- E. As a prerequisite for monthly progress payments, the Contractor is to exhibit the currently updated "Record Documents" for review by the Engineer and Owner.

3.02 MARKING METHOD

- A. Use the color Red (indelible ink) to record information on the Drawings and Specifications,
- B. Label each document "PROJECT RECORD" in neat large printed letters.
- C. Unless otherwise specified elsewhere, notations shall be affixed to hardcopies of documents.
- D. Record information contemporaneously with construction progress.

E. Legibly mark drawings with as-built information:

1. Elevations and dimensions of structures and structural elements.
2. All underground utilities (piping and electrical), structures, and appurtenances
 - a. Changes to existing structure, piping and appurtenance locations.
 - b. Record horizontal and vertical locations of underground structures, piping, utilities and appurtenances, referenced to permanent surface improvements.
 - c. Record actual installed pipe material, class, size, joint type, etc

3.03 RECORD INFORMATION COMPILATION

A. Do not conceal any work until the required information is acquired.

B. Drawings: Legibly mark to record actual construction:

C. Do not conceal any work until the required information is acquired.

D. Items to be recorded include, but are not limited to:

1. Location and descriptions of distinct changes in geological/lithology and/or aquifer units.
2. Field changes of dimensions and/or details
3. Changes made by field order, change order, design modification, and RFI, and approved shop drawings.
4. Details not indicated on the original contract drawings.
5. Specifications - legibly mark each section to record: Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed, and changes made by Field Order, Change Order, RFI, and approved shop drawings.
6. Actual installed temporary wellhead mechanical and instrumentation equipment.
7. Coordinates, elevation, and bolt hole centerline orientations of the wellhead base flange.
8. All underground casing with elevations and dimensions. Actual installed casing material, class, etc.
9. Location, elevation, and datum of Benchmark used.

E. Specifications and Addenda; legibly mark each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by Field Order or by Change Order.

F. Shop Drawings (after final review and approval):

1. Five sets of record drawings for each process equipment, piping, electrical system and instrumentation system.

3.04 SUBMITTAL

- A. As specified under the section for progress payments, monthly applications for payment will be contingent upon up-to-date Record Drawings. If requested by the Engineer or Owner, Contractor shall provide a copy of the Record Drawings, or present them for review prior to processing monthly applications for payment.
- B. Upon substantial completion of the Work and prior to final acceptance, the Contractor shall finalize and deliver a complete set of Record Drawings to the Owner and/or Engineer conforming to the construction records of the Contractor. The set of drawings shall consist of corrected and annotated drawings showing the recorded location(s) of the Work. Unless specified otherwise elsewhere, Record Drawings shall be in the form of a set of prints with annotations carefully and neatly superimposed on the drawings in red.
- C. Upon substantial completion of the Work and prior to final acceptance, the Contractor shall finalize and deliver a complete set of Record Documents to the Owner and/or Engineer conforming to the construction records of the Contractor. The set of documents shall consist of corrected and annotated documents showing the as-installed equipment and all other as-built conditions not indicated on the Record Drawings.
- D. The information submitted by the Contractor into the Record Drawings and Record Documents will be assumed to be correct, and the Contractor shall be responsible for the accuracy of such information, and shall bear the costs resulting from the correction of incorrect data.
- E. Delivery of Record Drawings and Record Documents to the Owner and/or Engineer will be a prerequisite to Final payment.
- F. The Contractor shall maintain a copy of all books, records, and documents pertinent to the performance under this Agreement for a period of five years following completion of the contract.

END OF SECTION

SECTION 02270
TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work specified in this Section consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary.
- B. Temporary erosion controls include, but are not limited to, sodding, grassing, mulching, setting, watering, and reseeding on-site surfaces and spoil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the Owner.
- C. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the Owner.
- D. Contractor is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

1.02 REFERENCE DOCUMENTS

- A. Florida Building Code 2010 edition.

PART 2 PRODUCTS

2.01 EROSION CONTROL

- A. Seed to be Scarified Argentine Bahia, if required.
- B. Netting - fabricated of material acceptable to the Owner.

2.02 SEDIMENTATION CONTROL

- A. Bales - clean, seed-free, cereal hay type.
- B. Netting - fabricated of material acceptable to the Owner.
- C. Filter stone - crushed stone conforming to Florida Department of Transportation specifications.
- D. Concrete block - hollow, non-load-bearing type.
- E. Concrete - exterior grade not less than one inch thick.

PART 3 EXECUTION

3.01 EROSION CONTROL

- A. Minimum procedures for grassing are:
1. Scarify slopes to a depth of not less than six inches and remove large clods, rock, stumps, roots larger than 1/2-inch in diameter and debris.
 2. Sow seed within twenty-four (24) hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.
 3. Apply mulch loosely and to a thickness of between 3/4-inch and 1-1/2 inches.
 4. Apply netting over mulched areas on sloped surfaces.
 5. Roll and water seeded areas in a manner which will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.

3.02 SEDIMENTATION CONTROL

- A. Install and maintain silt dams, traps, barriers, and appurtenances as shown on the approved descriptions and working drawings. Hay bales which deteriorate and filter stone which is dislodged shall be replaced.

3.03 PERFORMANCE

- A. Should any of the temporary erosion and sediment control measures employed by the Contractor fail to produce results which comply with the requirements of the State of Florida, Contractor shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

END OF SECTION

SECTION 02850
WELL MOBILIZATION AND CLEANUP

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. This Section includes the work necessary to move in and move out personnel and equipment, set up, and removal of drill rigs and temporary facilities and clean up the site, complete. Included in this work: construction and maintenance of well drilling pad; contamination precautions; erosion control; protection of nearby canals, land resources, and air quality; noise control; and hurricane preparedness.
- B. The Contractor is responsible to repair or restore any damage caused by the Contractor to the Project site, including vegetation.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Drilling is included in Section 02851.
- C. Grouting is included in Section 02854.
- D. Fluid Management is included in Section 02855.
- E. Water Quality Analysis is included in Section 02862.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations and standards related to the construction of wells in the State of Florida; St. Johns River Water Management District; and local, municipal, and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, ANSI, and API shall apply, except as referenced herein.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Construct temporary well drilling pad and set up well drilling equipment within the area designated by the Owner and/or Engineer. All drilling fluids and cuttings shall be managed in accordance with Specifications 02851 and 02855. Accomplish all work in accordance with applicable portions of these Specifications.
- B. No equipment shall be moved onto the project site until the Contractor is authorized to do so by the Owner and/or Engineer.

3.02 WELL DRILLING PAD

- A. The Contractor shall install a suitable pad to serve as a work floor for the drill rig and associated equipment capable of retaining all drilling fluids in the vertical and horizontal directions.
- B. The Contractor shall submit complete construction plans and details for the drilling pad and associated equipment and receive review before beginning construction.
- C. The drilling equipment shall have dimensions to hold adequate volume of water and drilling fluids including a method of returning them to the required fluid management system.
- D. Contractor shall design a fluids management system to dispose of drilling, development and test water drilling fluids in accordance with Section 02855. The Contractor shall submit plans for the fluid management system to the Owner and/or Engineer for review. The Contractor shall not proceed until the review process has been completed.

3.03 CONTAMINATION PRECAUTIONS

- A. Avoid contamination of project area. Do not dump waste oil, rubbish, or other similar materials on the ground. Contractor shall provide secondary containment for petroleum-based fluid storage areas and conveyances. Any leaks identified will require prompt attention by the Contractor to mitigate. The Contractor shall be responsible for the remediation of any contamination caused by activities related to the Work. Any remediation activities shall be conducted in accordance with applicable federal, state, and local rules and regulations.

3.04 CLEANUP OF CONSTRUCTION AREAS

- A. Upon completion and acceptance of Well No. 15, remove from the site the drill rig and equipment, complete, and all debris, unused materials, temporary construction, and other miscellaneous items resulting from or used in the operations within 30 days of well completion. Replace or repair any facility, which has been damaged during construction work. Restore the site as nearly as possible to its original condition.

3.05 EROSION CONTROL AND PROTECTION OF CANALS

- A. Provide positive means of erosion control such as shallow ditches around construction to carry off surface water. Erosion control measures, such as siltation basins, silt fencing, hay check dams, mulching, jute netting and other equivalent techniques, shall be used as appropriate. At the completion of the work the ground surface restored to original condition.
- B. The Contractor shall not discharge water from operations directly into any live or intermittent stream, channel, wetlands, surface water or any storm sewer. Water from operation shall be treated by filtration, settling basins or other approved method to reduce the amount of sediment contained in the water to allowable levels.
- C. All preventive measure shall be taken to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by local ordinances, as applicable.

3.06 PROTECTION OF LAND RESOURCES

- A. Land resources within the project boundaries and outside the limits of permanent work shall be restored to a condition, after completion of construction that will appear to be natural and not detract from the appearance of the project. Confine all construction activities to areas shown on the Drawings.
- B. Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Owner and/or Engineer. Where such special emergency use is permitted, first wrap the trunk with sufficient thickness or burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.
- C. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment, dumping or other operations, protect such trees by placing boards, planks, or poles around them. Monument and markers shall be protected similarly before beginning operations near them.
- D. Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition. The Engineer will decide what method of restoration shall be used and weather damaged trees shall be treated and healed or removed and disposed of.
 - 1. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1-inch in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted.

3.07 PROTECTION OF AIR QUALITY

- A. Burning: The use of burning at the Project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control: The Contractor shall be required to maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from dust which could cause the standards for air pollution to be exceeded, and which would cause a hazard or nuisance to others.
- C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides may be permitted with approval from the Owner and/or Engineer.
- D. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Owner and/or Engineer.

3.08 NOISE CONTROL

- A. The Contractor shall make every effort to minimize noise caused by his operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Local, State and Federal regulations.

3.09 RELOCATIONS

- A. The Contractor shall be responsible for the relocation of structures, including but not limited to light poles, control panels, signs, sign poles, fences, piping, irrigation, conduits and drains that interfere with the positioning of the work as set out in the Drawings. The cost of all such relocations shall be included in the Project and shall not result in any additional cost to the Owner.

END OF SECTION

SECTION 02851
DRILLING

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall provide the work, materials, and equipment necessary for drilling Well No. 15, a triple-cased larger diameter (20-inch outside diameter (OD) Floridan Aquifer production well, complete. The well is to be of the general type and characteristics described in the Contract Documents. The exact depth of well and length of casings will be determined in the field by the Engineer. Well No. 15 will be constructed with a surface (steel), intermediate (steel) and final casing (steel). The surface casing will seal off the upper surficial aquifer system. The intermediate casing will seal off both upper and lower portion of the surficial aquifer and set into the top of the Hawthorn Group. The final casing will be set into the Upper Floridan aquifer sealing off Hawthorn Group. Casing depth seating will be determined by review of cuttings from pilot boring. The open hole interval will be open to water production zones of the Upper and Lower Floridan aquifer. Mud rotary techniques are anticipated for drilling through the Hawthorn Group. Upon setting of the final casing through the Hawthorn Group, a 12 1/4-inch diameter (dia.) pilot boring will be drilled using reverse air rotary drilling to target depth as determined by Engineer (anticipated depth of 1,300 ± feet bls). The reaming completion of the wells to total depth will be using the reverse air rotary drilling method.
- B. The wells shall be drilled into aquifers containing fresh water under pressure. The site is located and surrounded by urban environment. Requirements will be set forth in these specifications regarding the handling of discharge water, drilling fluids, and cuttings. Requirements also are set forth for controlling the flow of the well during construction and providing a fluid management system for all drilling operations.
- C. At the completion of drilling, the Contractor shall remove all equipment, which are not part of the completed well and leave the site in as good as or better than original condition, acceptable to the Owner and/or Engineer.
- D. The Contractor shall not proceed until the Engineer's and/or Owner's drilling/testing fluid discharge review process has been completed.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Well Mobilization and Cleanup is included in Section 02850.
- C. Casing and Temporary Wellhead is included in Section 02852.
- D. Geophysical and Color Video Logging is included in Section 02853.
- E. Grouting is included in Section 02854.
- F. Fluid Management is included in Section 02855.
- G. Water Quality Analyses is included in Section 02863.

- H. Well Step Drawdown Testing is included in Section 02864.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD), and local municipal and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, AWS, ANSI, API and ASME Boiler and Pressure Vessel Code shall apply, except as referenced herein.
- C. American Society of Testing and Materials (ASTM)
 - 1. ASTM C150 – Standard Specification for Portland Cement
 - 2. ASTM A312 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
- D. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells
 - 2. AWWA C654 - Disinfection of Wells
- E. The latest revisions of Chapters 62-4, 62-520, 62-531, 62-532, 62-550, and 62-555 of the Florida Administrative Code (FAC), shall apply as referenced herein.
- F. The latest revisions of the Rules of the SJRWMD Chapters 40C-3 shall apply as referenced herein.

1.04 CONTRACTOR'S RESPONSIBILITY

- A. All work shall be performed by a certified water well driller, licensed by the State of Florida pursuant to Chapter 62-531, FAC.
- B. The Contractor shall provide all necessary equipment to perform specified work. The Contractor's and/or their Subcontractor's equipment shall be in first class working order and shall be suitable for completing work described in these Specifications. Equipment including, but not limited to, Top-head rotary drive drilling rig, drilling rods, drilling bits (steel tricone, button bit, cutting bits), mud circulation system, sand separating system, centrifugal and submersible pumps, motors, welders, generators, cranes/boom trucks, tanks, hoses (lay flat and rigid), ancillary equipment for site work.
- C. The Contractor shall provide and operate equipment capable of handling the largest load that will be placed upon the rigs drilling and supporting equipment. If conditions develop in the field that prove the rigs and supporting equipment that had been supplied by the Contractor are incapable of completing the well as specified, the Contractor shall provide a larger rig with the necessary capacity at their own cost. A minimum of 4-inch inner diameter (ID) drill rods with a 400 cfm and 200 psi compressor are required for reverse-air drilling.
- D. The Contractor's and/or his Subcontractor's equipment shall be operated and maintained in conformance with manufacturer's recommendations.

- E. The Contractor shall be responsible for obtaining all necessary local, state and agency permits associated with well construction and fluid management.
- F. The Contractor shall employ only competent workers for the execution of the work. All work shall be under the direct supervision of an experienced drilling superintendent (tool-pusher), and the tool-pusher must be on-site at least 8 hours per day throughout the course of the project with the exception of development pumping and pumping tests. The competency of the workers and superintendent shall be subject to the discretion of the Owner and/or Engineer.
- G. A minimum personnel crew of two (2) workers is required for all work associated with this project. No work shall be performed unless the minimum crew is present.
- H. No unnecessary delays or work stoppages will be tolerated because of equipment failure, which will not be considered a valid reason for extending the length of the Contract. The Contractor shall be held responsible, and payment will be withheld for damages to the well due to any act of omission, error, or faulty operation by the Contractor or his employees or agents, or equipment failure. Resulting repairs shall be completed by the Contractor to the satisfaction of the Owner and/or Engineer or a replacement well drilled by the Contractor at no additional cost to the Owner and without claim against the Owner and/or Engineer or agents.
- I. The Contractor is solely responsible for site security and the Contractor's equipment.

1.05 LOCAL GEOLOGIC CONDITIONS

- A. Information regarding subsurface conditions is intended to assist the Contractor in establishing a price for the Work. The Owner does not guarantee its accuracy or that it is necessarily indicative of conditions to be encountered in drilling the well. The Contractor shall satisfy themselves regarding all local conditions affecting work by personal investigation and neither the information on local geology, nor that derived from maps or plans, nor information from the Owner or their agents or employees shall act to relieve the Contractor of any responsibility hereunder or from fulfilling any and all of the terms and requirements of the Contract Documents. In particular, the Contractor shall familiarize themselves through their own investigations of the difficulties that may be encountered when drilling through the formations that are anticipated to be penetrated during the drilling of the test wells including those that make up the surficial aquifer, Hawthorn Group, and Floridan Aquifer. The Contractor shall be advised and be aware of difficult drilling conditions and problems that may be encountered during the drilling, construction, and testing of the wells. Typical examples may include, but are not limited to, lost circulation, cavities and fractured zones in the Floridan aquifer; clay squeezing zones and potential sand intervals in the Hawthorn Group, with attendant caving problems. These and other pertinent factors shall be taken into consideration by the Contractor in planning and executing the work. There will be no additional compensation for unforeseen conditions.

1.06 UNDERGROUND AND OVERHEAD UTILITIES

- A. The Contractor shall secure information concerning the location of underground and overhead utilities at the well site, prior to the start of well construction.
- B. Damage to underground and overhead utilities resulting from the actions of the Contractor are the sole responsibility of the Contractor. All damage to underground and/or above -grade utilities shall be reported immediately to the affected utility, Engineer, and Owner. Contractor

shall be solely responsible for payment to any affected party for repair and/or replacement of said damaged utilities.

PART 2 PRODUCTS

2.01 WATER SUPPLY

- A. The Contractor shall be responsible for obtaining, transporting, and/or hauling the water required for drilling-fluid makeup, disinfection, flushing activities, and dust control (if needed). The Owner shall supply the water needed for the project, but it is the Contractor's responsibility to transport the water from the Owner's point of supply to the work site, and it is the Contractor's responsibility to supply all appurtenances needed for connection to the water supply. Cost of water from any other source shall be borne by the Contractor. In any case, only potable water shall be used for drilling. The Contractor shall provide, install, and maintain, at his expense, all water-supply connections and piping for construction use. Upon completion, all temporary connections and piping installed by the Contractor shall be removed. Contractor is advised that a fire hydrant is located immediately across East 2nd Street. The Contractor is responsible to provide proper DOT approved road crossing equipment for any water lines crossing a road.

2.02 CIRCULATING MEDIA

- A. When circulating media is required for mud rotary drilling in a freshwater aquifer, drilling fluid shall be Quik-Gel by N.L. Baroid, or Engineer approved equal.
- B. The Contractor shall provide equipment for measuring weight and viscosity of drilling fluid.

2.03 CONTROL OF FREE FLOWING CONDITIONS

- A. The Contractor shall provide a Washington Rotating Control Head or Engineer-approved comparable flow prevention device in the well. The flow prevention device to be provided shall be a commercially available, hydraulically operated, single annular preventer, or acceptable equivalent as approved by the Engineer.
- B. Salt and naturally occurring brines or drilling mud may be used as a drilling fluid additive or weighting material with approved by the Engineer and SJRWMD. If salt is to be used to control free flowing artesian conditions, the Contractor shall use 2,000 lbs. bags of Morton mixing salt.

2.04 CASINGS

- A. Casings used shall be as listed in Section 02852, Part 2 Products.

2.05 CEMENT GROUT SEALS

- A. Neat Cement Grout used shall be as listed in Section 02854, Part 2 Products.

2.06 MONITORING OF DRILLING OPERATIONS

- A. Contractor shall provide an Engineer-approved digital geolograph for measuring and recording the penetration rate of the bit during the drilling of the wells.

2.07 WATER QUALITY SAMPLING

- A. Sample bottles shall be new, one-liter plastic bottles with screw caps provided by a state certified laboratory.

PART 3 EXECUTION

3.01 DRILLING

- A. Flowing conditions in the well shall be kept under control at all times. Drilling mud may be used as weight material to keep the drilling fluid at a density necessary to control the flow. Salt or naturally occurring brines may be used as weight material upon SJRWMD and Engineer's approval. As flowing conditions are anticipated during the drilling of the well, the Contractor shall furnish and install a suitable flow prevention device for the well. Manufacturer's specifications pertaining to the type of preventer proposed for use by the Contractor shall be submitted to the Engineer for review before the drilling of the well commences and shall be used during drilling operations below the final casing. When no work is being done on a well, a preventer shall be put in place. The Contractor is responsible for the removal and disposal of any weight material used for flow suppression.
- B. Drill cuttings and drilling fluid shall be removed from the drilling site and disposed of at a suitable location. The Contractor shall furnish to the Owner and/or Engineer, prior to beginning construction, the name and location of his disposal site along with documentation that the site has been approved by the appropriate regulatory agencies. The Contractor shall provide the Owner and/or Engineer with an original letter showing acceptance of above materials by the landfill or other disposal location prior to construction. The fluid displaced from the borehole during cementing operations shall be considered excess drilling fluid and shall be disposed of in the accepted manner. The Contractor shall submit plans to contain and remove all cuttings and drilling mud for the Engineer's approval at the preconstruction meeting.
- C. When all casings are being set and cemented in place, it is the Contractor's responsibility to ensure that these operations are conducted in such a manner that the casing collapse and burst strengths (with safety factor) are not exceeded and the casings are not caused to fail. In the event that a casing collapse, burst or deform to such a manner that prevents successful well construction completion, the Contractor shall abandon and replace the well at no costs to the Owner.
- D. All wells through surficial aquifer and Hawthorn Group shall be drilled by the mud rotary or other appropriate techniques to meet the project depth and diameter requirements consistent with water well construction regulations (Chapter 40C-3, FAC). The reverse air drilling method shall be used when drilling in the Floridan aquifer.
- E. The Contractor shall drill the well at the approximate location shown on the Drawing.
- F. The Contractor shall drill a borehole at each well location so that the casing is installed straight and plumb as described in Section 02851 3.04.
- G. Upon completion and testing of Well No. 15, a water tight temporary well head shall be installed procuring well access security, in accordance to Section 02852. Refer to the contract drawings (Contract Civil Sheet CD-1) for the temporary well head detail.

3.02 FLUID MANAGEMENT

- A. The Contractor shall maintain the Fluid Management System, in accordance to Section 02855.

3.03 WELL DEVELOPMENT

- A. Upon construction completion, the well will be developed using a temporary pump supplied by the drilling contractor. The wells will be developed at a pumping rate of 2,500 gpm to 3,000 gpm to meet the following criteria:
 - 1. Substantially free of all drilling fluids.
 - 2. The water exhibits a field-tested turbidity of ≤ 1 NTU.
 - 3. The well exhibits a sand content of ≤ 5 mg/L as determined by using a Rossum Sand Tester in accordance with the manufacturer's specifications.
 - 4. Ambient water quality parameters such as pH, specific conductance, and temperature stabilize within acceptable FDEP SOP criteria listed in FS 2212, section 3 (pH: + **0.2 units** Temperature: + **0.2°C** Specific Conductance: + **5%**).
- B. Engineer will confirm the Contractor has met these criteria on a consistent basis.
- C. The Contractor shall maintain the Fluid Management System during well development.

3.04 STRAIGHTNESS AND PLUMBNESS TEST

- A. Priority requirements of these Specifications is the drilling of straight holes, positive documentable proof that all pilot holes have been plugged up with cement and casing set to the required depths. The Contractor will be required to drill straight holes which will allow setting the casing at the required depths, provide room for proper cementing, and allow for pump setting to be installed in the center of the casing without leaning and touching one side. These straightness and plumbness requirements shall not be sacrificed for drilling speed or any other reason.
- B. During all drilling, the Contractor shall perform inclination surveys at intervals of 90 feet as the drilling and reaming progresses. These surveys shall be performed using a wire line instrument equipped with an inclination unit having a range of from 0 to 1.5 degrees of inclination from the vertical and the survey record shall be capable of being read to the nearest one tenth of one degree of angle. The maximum allowable inclination from the vertical at any portion of a hole or survey point shall be one degree; the maximum allowable difference between any two successive survey points shall be 0.5 degree (30 minutes). Any deviation greater than one degree or difference greater than 0.5 degree (30 minutes) between two surveys shall be corrected by the Contractor at their own expense. If instrument is indicating that the hole is not meeting the specified limits, then the Contractor shall re-ream the hole and repeat the survey. This process will be repeated or other actions taken by the Contractor to meet the specified limits.
- C. All holes for all wells shall be round, straight, and true to line. No doglegs or departures from a straight line shall be permitted, which will interfere or prevent casings from being set to their required depths. The drilled hole shall be constructed plumb and true to line as defined in

AWWA A100-15. A plumbness test shall be conducted in accordance with AWWA A100-15. The maximum allowable horizontal deviation (drift) of the well from the vertical shall not exceed 0.0067 times the smallest inside diameter of that part of the well being tested per foot of depth. The maximum misalignment permissible is one that will allow a 40-feet long section of pipe, or a dummy, to pass freely through it. The outside diameter of the pipe or dummy should be no smaller than ½-inch less than the inside diameter of the casing or hole being tested. If a dummy is used to test, it should have a minimum of three rings 12-inches wide, located at the top, bottom, and center on a rigid frame. A report documenting the well plumbness test shall be provided to the Engineer upon completion of the test.

- D. Should the results of the drilling of any of the pilot and/or reamed holes indicate that conditions have been or are being created that would prevent the casings from being set to their prescribed depths and properly cemented or prevent the well from being properly and successfully completed, the Contractor shall take steps to straighten the hole or correct the drift or deviation at his own expense so that casings can be installed to the prescribed depths and allow for proper cementing.

3.05 FORMATION AND WATER SAMPLE DATA COLLECTION

- A. The Contractor shall be responsible for collection of formation samples. Each sample shall be approximately one pint in volume, and placed in a container labeled using indelible ink with the date, well identification, and depth from which the sample was taken.
- B. The Contractor shall collect two sets of representative formation samples between 10 feet bbls to the full depth of the borehole. Samples shall be taken every ten feet and each change in formation or material type. The method must yield samples that are representative of the actual depth to which drilling has progressed.
- C. Samples shall be kept in containers acceptable to the Engineer. One set of samples shall be submitted to the Owner and/or Engineer. The second set shall be delivered by the Contractor to the Florida Geologic Survey, upon completion of each well to the address provided below:

Florida Geological Survey
Annex and Warehouse
3915 Commonwealth Blvd.
Tallahassee, Florida 32399-3000
Tel: (850) 245-3124

Written confirmation of delivery shall be provided to the Owner and/or Engineer.

- D. The Contractor shall also collect water samples during reverse air drilling at 30-foot intervals. The Contractor shall collect water quality samples for chloride, total dissolved solids, sulfate and specific conductance and submitted to the Owner and/or Engineer for analysis immediately after collection. Water sampling shall be performed in accordance with Section 02863.

3.06 RECORD KEEPING

- A. The Contractor shall submit to the Owner and/or Engineer a daily drilling log describing the activities performed during the reference period. The logs shall be on International Association of Drilling Contractors (IADC) Forms and shall give a complete description of equipment used, geologic materials and depths encountered; depths of lost circulation zones and methods of

regaining circulation; drilling rates; time, depth and description of any unusual occurrences or problems during drilling; and diameters and lengths of casing installed, fluid and water-level changes and the depths at which they occurred, gravel and cementing operations, repair time and other such pertinent data as may be required by the Engineer. Two copies of each daily log shall be submitted to the Owner and/or Engineer on a daily basis. The Contractor shall also provide a tabulation of all quantities for pay items and a description of all decisions made by the Contractor.

- B. The Contractor shall prepare and submit to the Owner and/or Engineer a final well log which shall include geologic log; borehole diameters; depth of the bottom of the casing and/or the bottom of the borehole; casing diameters and wall thickness; cemented zones; perforated or screened interval(s); amount of sand removed during development; and other information from the daily logs pertinent to the well construction. In addition, the Contractor shall file all records and reports with the proper agencies required by federal, state, and local codes or regulations.
- C. The Contractor shall furnish, maintain, and operate a continuous strip chart, drilling rate, bit weight, and footage recorder such as a geolograph recorder, or equal, on the drilling rig. The Contractor shall submit copies of the strip charts to the Owner and/or Engineer with the daily logs.

END OF SECTION

SECTION 02852
CASING AND TEMPORARY WELLHEAD

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall provide all the work, materials, and equipment necessary for furnishing, installing, and testing the straightness and plumbness of the well casing and temporary wellhead, complete in accordance with Section 02851 and Contract Drawings
- B. The Contractor shall provide all materials and equipment necessary for joining and installing the casing as specified.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Drilling is included in Section 02851.
- C. Geophysical and Color Video Logging is included in Section 02853.
- D. Grouting is included in Section 02854.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD) and local, municipal, and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, AWS, ANSI and API shall apply, except as referenced herein.
- C. American Society of Mechanical Engineers (ASME)
 - 1. ASME B36.10 – Welded and Seamless Wrought Steel Pipe
- D. American Society of Testing and Materials (ASTM)
 - 1. ASTM F480 - Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80
 - 2. ASTM C150 – Standard Specification for Portland Cement
 - 3. ASTM A53 – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
 - 4. ASTM A106 - Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service
 - 5. ASTM A312 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

- E. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells
 - 2. AWWA C654 - Disinfection of Wells
- F. The latest revisions of Chapters 62-4, 62-520, 62-531, 62-532, 62-550, and 62-555 of the Florida Administrative Code (FAC), shall apply as referenced herein.
- G. The latest revisions of the Rules of the SJRWMD Chapters 40C-3 shall apply as referenced herein.
- H. Where reference is made to one of the above standards, the revisions in effect at the time of bid opening shall apply.

PART 2 PRODUCTS

2.01 STEEL CASING

- A. Steel casing shall be new and unused, and of the type, thickness, diameter, and weight specified herein. All casing shall be free of defects in workmanship and handling.

2.02 FLORIDAN AQUIFER WELL CASINGS

- A. Surface Casing: The surface casing shall be new, unused steel A106 Grade B or ASTM A53 Grade B welded or seamless steel pipe conforming to ANSI Standard ASME B36.10, Welded and Seamless Wrought Steel Pipe. Casing diameter shall be a minimum of 36-inch OD with a wall thickness of 0.375-inch. Casing segments shall have plain ends, beveled for welding.
- B. Intermediate Casing: The intermediate casing shall be new, unused steel A106 Grade B or ASTM A53 Grade B welded or seamless steel pipe conforming to ANSI Standard ASME B36.10, Welded and Seamless Wrought Steel Pipe. Casing diameter shall be 30-inch OD with a wall thickness of 0.375-inch. Casing segments shall have plain ends, beveled for welding.
- C. Final Casing: The final casing shall be new, unused steel A106 Grade B or ASTM A53 Grade B welded or seamless steel pipe conforming to ANSI Standard ASME B36.10, Welded and Seamless Wrought Steel Pipe. Casing diameter shall be 20-inch OD with a wall thickness of 0.375-inch. Casing segments shall have plain ends, beveled for welding.

2.03 CENTRALIZERS

- A. All casing centralizers shall be manufactured by a service company acceptable to the Engineer.
- B. Alternatively, the Contractor may propose fabrication of centralizers in the field provided they are constructed of a suitable material as determined by the Engineer.

2.04 TEMPORARY WELLHEAD

- A. Contractor shall furnish and install a temporary wellhead on the production well. The temporary wellhead shall extend above land surface having with a water tight steel blind flange.

- B. The temporary wellhead detail shall be constructed in accordance to Contract Civil Drawing, CD-1. The base flange shall be welded by a certified welder and shall be set such that the elevation of the four opposite points (spaced 90-degrees from each other) be at an elevation of 20.80 feet (NAVD 88) at each point. The flange elevations at the four points shall be verified by a certified surveyor and submitted to Engineer and Owner for review and approval.
- C. The base flange shall be two-holed in accordance to the Contract Document Civil Sheet CD-1, Detail E. Alignment of bolt patterns should be configured such that direction of pump discharge piping is as shown on the Contract Documents.
- D. The temporary wellhead completion will be performed by the Contractor after testing and confirmation of well production, water quality and sustainability by the Owner and/or Engineer. In order to control artesian flow for future permanent wellhead installation and allow for future access to apply brine solution (to kill artesian flow during final wellhead construction), the blind flange shall reduce to a 2-inch diameter threaded pipe with a ball valve with a ½-inch diameter tee for a sampling port and pressure gauge. All the fittings must be water tight and leak free. Refer to contract drawing for temporary wellhead completion.
- E. The Contractor is responsible for securing the temporary well head with locks or temporary cover to deter vandalism or unauthorized opening of valves on the well head. Security of the well head must be approved by the Owner and Engineer.

PART 3 EXECUTION

3.01 INSTALLATION

- A. The Contractor shall install casing to the approximate depths as shown in the Drawings, or as instructed by the Engineer.
- B. The Contractor shall install the casing such that all joints are water tight. The method used to connect casing lengths shall be in accordance with the manufacturer's recommendations so that the resulting joint shall have the same structural integrity as the casing itself.
- C. If metallic casing is welded, the standards of the American Welding Society shall apply and as referenced in section 3.03.
- D. The Contractor shall remove and replace all casing, which fails, collapses, or separates during construction at his sole expense.

3.02 CENTRALIZERS

- A. The Contractor shall provide all fittings, drive shoes and centering guides necessary to complete the well as designed. All centralizers shall provide maximum clearance around the casing between the next outer casing or borehole wall, and shall be in a precise vertical alignment, one above the other, to allow for placement of tremie pipes in the annulus.
- B. Casing centralizers shall be installed at the approximate locations shown below:
 - 1. 20 feet above bottom of casing.
 - 2. 40 feet above bottom of casing.

3. 100 feet above bottom of casing.
 4. At 100-foot intervals thereafter up to 100 feet from ground surface
- C. Alternative centralizer locations may be used with prior approval from the Engineer based on results of the caliper log.

3.03 WELDING

- A. The Contractor shall use certified welders on all welding operations. The Contractor shall pay for all testing requirements prior to acceptance of any welder. Welder's qualifications shall be in conformance with Section IX, Article III of the ASME Boiler and Pressure Vessel Code. The Contractor shall demonstrate that welder can make groove welds in carbon steel pipe in positions 2G and 5G for each welding process used.
- B. The Contractor shall provide welding certificates for all welders prior to any welding.
- C. The Contractor shall correct all welding deficiencies in materials and/or workmanship at their own expense.

END OF SECTION

SECTION 02853
GEOPHYSICAL AND COLOR VIDEO LOGGING

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall provide a qualified geophysical logger approved by the Engineer, and all materials, and equipment necessary to prepare the well for geophysical logging. The Contractor shall employ the services of a company acceptable to the Engineer to obtain geophysical and video logs of Production Well No. 15. The Contractor shall supply well access and flow control (via stripper head or stand pipe if required) during logging. The Contractor shall prepare and condition each hole to insure it is open and can be logged with a minimum of delay. No payment will be made for logs which are unusable or inaccurate due to poor performance of the logging equipment. The Owner and/or Engineer reserve the right to add or take away geophysical logs.
- B. A schedule of proposed geophysical logs is provided in the table "Schedule of Proposed Geophysical Logs." Other geophysical logs may be required and/or scheduled by the Engineer.
- C. The Contractor shall assist the Owner and/or Engineer during geophysical logging and data collection and interpretation, as needed. The assistance will include the preparation of composite geophysical logs.
- D. The Contractor shall be responsible for the preparation of the pilot hole for geophysical logging. Preparation of the well shall include development and wiper and wire brush trips if required and as requested by the Engineer. The sequencing of logs will be determined by the Engineer. The testing will be accomplished using systems designed and constructed so that under no conditions shall there be an overflow. The Contractor shall provide and use a stripper head assembly and any other equipment necessary to keep any flow under control at all times.
- E. The Contractor shall provide a 24-hour advance notice to the Engineer prior to running all geophysical logs.
- F. The Owner and/or Engineer shall have access to the logger van at all times, and logging areas will be witnessed at the Owner's and/or Engineer's discretion.
- G. The Contractor shall provide and operate pumps capable of adequately stressing the aquifer during dynamic logs (e.g., flow meter, temperature, fluid resistivity).
- H. In the event that a logging tool becomes stuck or is lost in the borehole/well, the Contractor is responsible for all costs associated with tool retrieval or replacement and the clearance of the borehole/well.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Drilling is included in Section 02851.
- C. Water Quality Analyses is included in Section 02863.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD), and local municipal and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, ANSI, and API shall apply, except as referenced herein.
- C. American Society of Testing and Materials (ASTM)
 - 1. ASTM D5753 - Standard Guide for Planning and Conducting Borehole Geophysical Logging
 - 2. ASTM D6167 - Standard Guide for Conducting Borehole Geophysical Logging: Mechanical Caliper
 - 3. ASTM D6274 - Standard Guide for Conducting Borehole Geophysical Logging: Gamma
 - 4. ASTM D6726 - Standard Guide for Conducting Borehole Geophysical Logging: Electromagnetic Induction.
- D. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells
- E. The latest revisions of Chapters 62-4, 62-520, 62-531, 62-532, 62-550, and 62-555 of the Florida Administrative Code (FAC), shall apply as referenced herein.
- F. The latest revisions of the Rules of the SJRWMD Chapters 40C-3 and 40C-30, shall apply as referenced herein.
- G. Where reference is made to one of the above standards, the revisions in effect at the time of bid opening shall apply.

1.04 SUBMITTALS

- A. At the Pre-Construction conference the Contractor shall submit the name of the company that will be providing Geophysical Logging services for the project, along with an example log format, to the Owner and/or Engineer for review and approval. If the Owner and/or Engineer rejects the logging company, the Contractor shall propose another service company for review and approval.
- B. The Contractor shall furnish 2 field copies of the various logs to the Owner and/or Engineer within 3 hours of the time when logging was complete. A written field evaluation of their quality shall be submitted within 2 days of completion. Five copies of the finished logs shall be provided to the Owner and/or Engineer as soon as possible after logging. Electronic copies of the logs in LAS format and PDF shall be provided to the Owner and/or Engineer within 72 hours of the cessation of logging activities at each well.

PART 2 PRODUCTS

2.01 GENERAL

- A. All data collected from geophysical logs, and television survey shall be depth referenced to pad level or to a common datum as specified by the Engineer. All logging and survey tools shall be equipped with a continuous depth recorder that shall be displayed on the log output.
- B. All geophysical logs shall be calibrated per Manufacturer's recommendations. Contractor to provide calibration records at the request of the Owner and/or Engineer.
- C. Geophysical logs to be run over the course of construction and testing include:
 - 1. Caliper
 - 2. Natural Gamma Ray
 - 3. Spontaneous Potential
 - 4. Electric (short and long normal)
 - 5. Static/Dynamic Temperature
 - 6. Borehole Compensated Sonic with VDL
 - 7. Static/Dynamic Flowmeter
 - 8. Static/Dynamic Fluid Resistivity
 - 9. Cement Bond Log
- D. Imaging logs to be run over the course of construction and testing include:
 - 1. Color Video Survey
- E. The Contractor shall provide all submersible pumps, stand-pipe/stripper, hoses for dynamic logging and flow control.

PART 3 EXECUTION

3.01 LOGGING

- A. Geophysical logging shall be done as soon as possible after drilling and preparation of the pilot hole. The logging interval shall be the total depth of the hole or as determined by the Engineer.
- B. The pilot holes and the wells shall be logged in stages as indicated in the table "Schedule of Proposed Geophysical Logs."
- C. The Contractor shall be responsible for preparing the open hole intervals for geophysical logging by removing all drill cuttings from the hole and by properly conditioning the well bore to prevent the formation from collapsing into the hole. The Contractor shall be responsible for keeping the borehole open and free from obstruction during geophysical logging and shall

remove any obstruction to the logging tools at his own expense. In the event that the logging tools do not reach to within five feet of the bottom of the hole, as measured by the length of drill pipe, the Contractor shall then clean the hole to the original drilled depth at their expense. The logs shall then be rerun at the Contractor's expense.

- D. Borehole geophysical surveys are performed by lowering sensing devices attached to a wireline into the borehole and recording various physical properties of the borehole. The geophysical logging program implemented during the construction and testing shall collect information on the hydrogeology of penetrated strata, data on borehole geometry and volume that would assist in the setting and cementing of casing strings and determining packer test intervals, and evaluating the integrity of the casing cements.
- E. Static logs shall be performed with no direct influence on the representative water column.
- F. Dynamic logs shall be performed when pumping is introduced and the aquifer is stressed.
- G. Equipment, Logging Data, and log interpretation shall be in conformance with ASTM D5753: Standard Guide for Planning and Conducting Borehole Geophysical Logging.

3.02 CALIPER LOG

- A. The Contractor shall obtain x-y caliper measurements of the pilot hole or borehole. The Contractor shall calculate the volumetrics of the borehole with the x-y caliper measurement.

3.03 NATURAL GAMMA RAY LOG

- A. The Contractor shall obtain natural gamma ray readings recorded in API units in the pilot hole and borehole. A natural gamma ray log shall be run after each cement stage. The natural gamma ray log shall be run no less than 6 hours or more than 48 hours after each cement stage. Gamma logs provide a record of total gamma radiation detected.

3.04 SPONTANEOUS POTENTIAL LOG

- A. The Contractor shall provide a spontaneous potential log in all pilot hole loggings. The spontaneous potential shall be a function of the chemical activities of fluids in the borehole and adjacent rocks, the temperature, and the type and amount of clay present shall be directly related to porosity and permeability.

3.05 ELECTRIC LOG

- A. Resistivity logging measures the subsurface electrical resistivity of the formation, which is the ability to impede the flow of electrical current. The Contractor shall supply electric logs with short and long normal electrical field penetration.

3.06 TEMPERATURE LOG

- A. A temperature log shall be run after each cement stage to facilitate locating the top of the grout. The temperature log shall be run no less than 6 hours or more than 48 hours after each cement state. A differential and gradient temperature log shall be run from land surface to the base of casing.

3.07 BOREHOLE COMPENSATED SONIC WITH VARIABLE DENSITY LOG

- A. Contractor shall provide sonic logs or transmit-time logs that are a record of the travel time of the acoustic wave from one or more transmitters to receivers in the probe. The acoustic energy shall travel through the fluid in the well and through surrounding materials at a velocity that is related to the lithology and porosity of the rocks. A sonic log shall be conducted in all appropriate diameter pilot hole logging.

3.08 FLOW METER LOG

- A. Contractor shall provide flow analysis at up to four station points. Their primary application is to measure lateral flow out of the well, vertical flow within the well shall also be detected. A flow log shall be conducted in both static and dynamic logging of the completed pilot hole.

3.09 FLUID RESISTIVITY LOG

- A. Contractor shall provide fluid resistivity to measure the borehole fluid resistance to electronic conductance. The fluid resistance shall provide an indication of water quality in the borehole, and therefore the formation. The fluid resistance log shall measure and calculate the efficiency with which electric current transmits through the formation fluids. Static and dynamic fluid resistivity logs shall be conducted during the logging of the completed pilot hole.

3.10 CEMENT BOND LOGS

- A. The cement bond logs (CBL) shall be a type of geophysical log that is used to determine the quality of the cement bond between the casing and the cement grout, and between the cement and the formation, and to infer the presence of channels in the cement behind the casing. The cement bond logs shall be performed by lowering the logging tool down the hole while transmitting an acoustic signal outwards towards the casing wall.
- B. Travel time will be the time that it takes for the signal to travel from the transmitter, through the casing fluid, casing, and back to the receiver. Travel time shall be used to evaluating whether the logging tool was properly centered within the casing during the running of the CBL. Compression-water velocity in water is much slower than in the steel casing. If the logging tool drifted closer to the casing, then the travel path will be reduced, and thus the transit time will also be reduced. Constant tool centralization is critical to the obtainment of an interpretable CBL because an un-centered tool will produce erratic responses. A properly centered tool will result in a relatively straight travel time log with only minor deviations at casing joint locations.
- C. The amplitude of the acoustic signal will be a measurement of the energy lost by the signal as it passes through the casing into the cement grout. The rate of this attenuation is dependent upon the percent of bonded cement, the casing diameter, and the thickness and material of the casing wall. A casing that is completely un-cemented and in contact with formation fluid or drilling mud will cause the attenuation rate to be very small and the returning amplitude will be relatively high. In a casing section that is well bonded to the cement grout, the wave velocity difference between the casing and cement grout will cause significant attenuation of the acoustic signal and the returning amplitude will be relatively low. When the tool is properly centered, there will be a direct correlation between the amplitude response and the amount of cement bonded to the outer casing wall, as well as the quality of the bond.

- D. The total energy display is displayed as a variable density log (VDL). The VDL shall be produced from the arrivals of the acoustic waves at a receiver. The VDL shall be used to qualitatively assess the bond between the cement and formation and to detect the presence of channels in the cement grout, which might allow fluids to migrate behind the casing wall. Poorly cemented sections of casing generally have strong casing signals, whereas casing signals are absent or weak in well-cemented sections of casing. Casing joints, which normally appear as W-shaped “chevron” patterns, should be clearly visible in un-cemented well casings, whereas the pattern is usually barely discernible in cemented casing.
- E. The typical log responses for the four most common cement situations: (1) uncemented casing, (2) good casing bond and good formation bond, (3) good casing bond but poor formation bond, and (4) microannulus or channeling. A combination of good casing and formation bonding shall be characterized by low amplitude readings, weak casing arrivals on the VDL, and strong formation arrivals if formation attenuation is not high.

3.11 COLOR VIDEO (TELEVISION) SURVEY

- A. General: Video surveys shall be conducted by a qualified service company using equipment capable of surveying and recording the required depth. The Contractor may use their own equipment providing it is capable of surveying as required and the Contractor shall furnish proof of the capability of the equipment. The video camera shall be centralized within the borehole and have both side view (perpendicular to borehole) and down hole view with color capability and sufficient light source.
- B. The Contractor shall ensure that the well and borehole fluid is of sufficient clarity as determined by the Engineer to allow a video survey to be conducted. The Contractor shall pump into (or out of) the well a quantity of clear water not less than three volumes of the entire well and borehole.
- C. While pumping in the water and during the video survey, the wells may be under artesian pressure and may flow. The Contractor shall provide and use a stripper head assembly and any other equipment necessary to keep any flow under control at all times.
- D. Costs for pumping clear water into or out of the borehole to achieve the desired level of clarity for the video surveys and tapes (including time spent waiting for the video equipment) and for rig and crew labor for all activities associated with preparing for performing and dismantling equipment related to the video survey shall be included with the Contractor’s testing costs for Well No. 15.
- E. The Contractor shall repeat the video survey at their own cost if water quality is inadequate or the borehole is not properly conditioned, as evaluated by the Engineer.

3.12 LOGGING SCHEDULES

- A. A Schedule of Proposed Geophysical Logs is presented below.

Well No. 15 Schedule of Proposed Geophysical Logs

Construction Phase	Approximate Depth (feet bls)	Geophysical logs
12 ¼-inch diameter pilot hole	0 – 95±	Caliper, gamma ray, electric (resistivity – short and long normal)
35-inch diameter reamed hole into top of Hawthorn Group	0 – 95±	Caliper, gamma ray, electric (resistivity – short and long normal)
12 ¼-inch diameter pilot hole in to top of UFA	95 – 530±	Caliper, gamma ray, electric
Reamed borehole to 29-inch nominal	95 – 530±	Caliper and gamma ray
20-inch casing to 530 feet ± and 12 ¼-inch diameter pilot hole from 530 feet ± to 1,300 feet ±	0 – 1,300	Caliper, gamma ray, borehole compensated sonic with VDL, cement bond, electric or dual induction. Static and dynamic temperature, fluid resistivity and flowmeter. Dynamic Borehole Color Video (Television) survey. Dynamic logs anticipated to be run at 1,500 gpm. Collect in-situ grab water quality samples for chloride, sulfate, pH, and conductivity from up to four depths in the open hole interval.
Completed well with final 20-inch casing set to 540 feet ± and 18-inch open borehole to 1,300 feet ±	0 – 1,300	Borehole Color Video (Television) survey

END OF SECTION

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SECTION 02854
GROUTING

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall provide the work, materials, and equipment necessary for furnishing and installing the grout seal, complete.
- B. General: Grouting (cementing) shall be completed by the Contractor sufficient equipment and expertise to perform these operations.
- C. The Contractor shall submit a detailed grouting plan in writing (at least 24 hours, excluding weekends and holidays, before grouting starts) prior to each grout operation for review by the Engineer. The grouting plan shall include all calculations in detail showing quantities of grout needed and pressure calculations to avoid casing collapse during grouting. Also included shall be injection pump capacity, equipment used for mixing and grout mix, and monitoring equipment.

1.02 RELATED WORK

- A. Summary of Work is included in Section 01010.
- B. Drilling is included in Section 02851.
- C. Casing is included in Section 02852.
- D. Geophysical and Color Video Logging is included in Section 02853.

1.03 REFERENCE TO STANDARDS AND REGULATION

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD), and local municipal and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, ANSI, and API shall apply, except as referenced herein.
- C. American Society of Testing and Materials (ASTM)
 - 1. ASTM C150 – Standard Specification for Portland Cement
- D. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells
- E. Where reference is made to one of the above standards, the revisions in effect at the time of bid opening shall apply.

1.04 SUBMITTALS

- A. The Contractor shall submit to the Owner and/or Engineer mill certificates for all dry cement delivered to the site. The Contractor shall submit all cement mixtures to the Engineer prior to placement.

PART 2 PRODUCTS

2.01 GROUT INFORMATION

- A. The Contractor shall provide all grout, materials, collarless tremie pipe specifications, and equipment necessary for placement of the grout as specified.
- B. All cement for grout shall conform to ASTM C 150, Type II and be mixed with potable water. The amount of water added to cement shall be no greater than specified by the manufacturer unless approved by the Engineer.
- C. The Contractor shall provide other cementing additives formulated specifically for well cementing as provided by the Service Company, or equal and as acceptable to the Engineer.
- D. Grout can be used with additives and lost circulation materials (Flocele and/or gilsonite) as necessary and acceptable to the Engineer. Bentonite may be used in concentrations up to a maximum of 5 percent unless otherwise specified. Cement emplaced at the bottom 200 feet of the intermediate and final casings shall be neat. However, lost-circulation material such as Flocele and gilsonite may be used, as needed.
- E. Mixed cement shall include cement and all additives and lost circulation material acceptable to the Engineer.
- F. Where casings are set while preserving the open interval drillable cement bridge plugs will be utilized. Alternatively, backfilling an open borehole with clean washed and disinfected gravel is acceptable with prior approval from the Engineer.

PART 3 EXECUTION

3.01 GROUTING PROCEDURES

- A. Cementing will be accomplished in stages by mean of a collarless tremie pipe. The first cement stage for each casing stage shall be pressure grouted, tremie grouting will be employed thereafter. The method of cementing applies to all cementing procedures in all casings.
- B. Grouting shall be done in the presence of the Owner and/or Engineer, filling completely the annular space between the hole and casing from the bottom of the casing or the top of the previous cement stage, to the level shown on the Drawings, or as instructed by the Engineer. Contractor is responsible for defect in the cementing work due to improper or lack of equipment, personnel or experience. Contractor shall pay all costs necessary to correct such defects. Should the Contractor fail to correct defects, Owner and/or Engineer may refuse to accept the well.
- C. Cementing procedures shall be continuous for each stage after cementing begins. If loss of circulation or no return of cement is encountered, the Owner and/or Engineer shall be notified

immediately of what remedial measures are underway to reestablish the circulation and complete the cementing program according to the well design and Technical Specifications.

- D. During the cementing of all strings of casing, the Contractor shall be responsible for having a sample from each cement stage collected (both dry and mixed). Mixed cement sample shall include at least three, 2-inch cubes from each cement stage. Proper identification and labeling of each sample is mandatory.
- E. Before each cement stage, the Contractor shall tag the top of the cement with a collarless tremie pipe.
- F. When the casings are being set and cemented in place, it is the Contractor's responsibility to insure that these operations are conducted in such a manner that the casing collapse and burst strengths (with safety factor) are not exceeded and the casing is not caused to fail. Cement shall be pumped or placed so that excessive pressures will not result and affect the bond.

3.02 GROUT CURING

- A. The Contractor shall allow a minimum grout curing time of at least 12 hours between each grout stage.
- B. The Contractor shall not perform any work or any drilling operations until the grout has cured.
- C. The Contractor shall wait a minimum of 24 hours after the completion of the last grout stage prior to starting subsequent well construction or testing activities.
- D. The Contractor shall include waiting on grout time for each grout stage in the unit price of grout pumped in the provision and installation of casings listed in the Schedule of Values and Bid Form.

END OF SECTION

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SECTION 02855
FLUID MANAGEMENT

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall provide the labor, materials, and equipment necessary for drilling Well No. 15 a triple-cased larger diameter (20-inch outer diameter [OD]) Floridan Aquifer production well, complete. Mud rotary techniques are anticipated for drilling through the Hawthorn Group. Upon setting of the final casing through the Hawthorn Group, a 12-¼-inch diameter pilot boring will be drilled using reverse air rotary drilling to target depth as determined by Engineer (anticipated depth of 1,300 ± feet below land surface (bls)). The reaming completion of the wells to total depth will be using the reverse air rotary drilling method.
- B. The wells shall be drilled into aquifers containing fresh water under pressure. The site is located and surrounded by urban environment. Requirements will be set forth in these specifications regarding the handling of discharge water, drilling fluids, and cuttings. Requirements also are set forth for controlling the flow of the well during construction and providing a fluid management system for all drilling operations.
- C. At the completion of drilling, the Contractor shall remove all equipment, which are not part of the completed well and leave the site in as good as or better than original condition, acceptable to the Engineer.
- D. The Contractor shall not proceed until the Owner's drilling/testing fluid discharge review process has been completed.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Well Mobilization and Cleanup is included in Section 02850.
- C. Drilling is included in Section 02851.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD), and local municipal and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, AWS, ANSI, API and ASME Boiler and Pressure Vessel Code shall apply, except as referenced herein.
- C. American Society of Testing and Materials (ASTM)
 - 1. ASTM F480 - Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80
 - 2. ASTM C150 – Standard Specification for Portland Cement

3. ASTM A312 - Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
- D. American Water Works Association (AWWA)
 1. AWWA A100 – Water Wells
 2. AWWA C654 - Disinfection of Wells
- E. The latest revisions of Chapters 62-4, 62-520, 62-531, 62-532, 62-550, and 62-555 of the Florida Administrative Code (FAC), shall apply as referenced herein.
- F. The latest revisions of the Rules of the SJRWMD Chapters 40C-3 shall apply as referenced herein.

1.04 CONTRACTOR'S RESPONSIBILITY

- A. All work shall be performed by a certified water well driller, licensed by the State of Florida pursuant to Chapter 62-531, FAC.
- B. The Contractor shall provide all necessary equipment to perform specified work. The Contractor's and/or their Subcontractor's equipment shall be in first class working order and shall be suitable for completing work described in these Specifications. Equipment including but not limited to: mud circulation system, sand separating system, centrifugal and submersible pumps, motors, welders, generators, cranes/boom trucks, tanks, hoses (lay flat and rigid), road crossing equipment, ancillary equipment for site work.
- C. The Contractor's and/or his Subcontractor's equipment shall be operated and maintained in conformance with manufacturer's recommendations.
- D. The Contractor shall be responsible for obtaining all necessary local, state and agency permits associated with well construction and fluid management.
- E. No unnecessary delays or work stoppages will be tolerated because of equipment failure, which will not be considered a valid reason for extending the length of the Contract. The Contractor shall be held responsible, and payment will be withheld for damages to the well due to any act of omission, error, or faulty operation by the Contractor or his employees or agents, or equipment failure. Resulting repairs shall be completed by the Contractor to the satisfaction of the Owner and/or Engineer or a replacement well drilled by the Contractor at no additional cost to the Owner and without claim against the Owner and/or Engineer, or agents.
- F. The Contractor is responsible for site security and the Contractor's equipment.

PART 2 PRODUCTS

2.01 WATER SUPPLY

- A. The Contractor shall be responsible for obtaining, transporting, or hauling the water required for drilling-fluid makeup, disinfection, flushing activities, and dust control (if needed), in accordance to Section 02851.

2.02 CONTROL OF FREE FLOWING CONDITIONS

- A. The Contractor may utilize drilling mud to suppress flow from the well bore as necessary. Salt and naturally occurring brines may be used as a weighting material with approved by the Engineer and SJRWMD. If salt is to be used to control free flowing artesian conditions, the Contractor shall use 2,000 lbs. bags of Morton mixing salt.

2.03 WATER TRANSFER ROAD CROSSING DEVICES

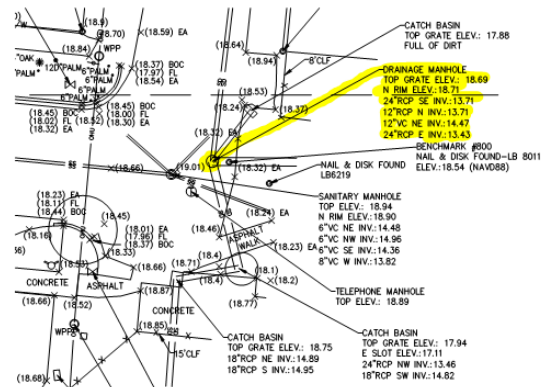
- A. The Contractor may utilize water transfer road crossing devices capable of transferring water up to a flow rate of 3,000 gpm. All proposed water bearing road crossing devices shall be submitted to Owner and/or Engineer for approval; all such submittals shall contain sufficient information to confirm the device is capable of fully conveying the intended flow without fluid backup, blockage, or other deleterious effects.

PART 3 EXECUTION

3.01 FLUID MANAGEMENT

- A. The drilling will be accomplished using circulation systems designed and constructed so that under no conditions shall there be an overflow. The Contractor is required to take all necessary steps to prevent accidental spillages from occurring. Frac tanks or other storage containers for the storage of fluids must be leak free. The Contractor shall submit plans for a fluid management system to the Engineer for review. This project will require decanting of and removal of solids of all drilling and testing fluids. After settling, the liquid portion of the fluids will be pumped from the settling tanks into a stormwater drain located at East 2nd Street and Clark Street, Jacksonville, Florida. The referenced stormwater drain drains east through a 24-inch OD RCP before being routed east along East 1st Street via a 30-inch OD RCP, before discharging into an existing stormwater detention pond east of Martin Luther King Parkway with subsequent overflow going to the St. Johns River. Refer to the attached figure for the proposed temporary pipeline route. This fluids disposal method will require meeting the requirements of the Generic NPDES Permit pursuant to Chapter 62-621.300, FAC. The Owner will obtain authorization to discharge uncontaminated drilling fluids to the stormwater drain from FDEP using the Generic permit process and collect water quality samples for analyses at the Owner's laboratory. The Contractor shall meet water quality threshold for turbidity at no more than 29 NTUs above natural background of the St. Johns River at the discharge point. The Contractor shall plan for and allow time for the Owner to collect and analyze water quality samples for Generic NPDES screening parameters and notify the FDEP, prior to discharging to the storm drain.
- B. The Contractor shall provide the temporary transmission piping, fittings and pumps capable of transmitting the fluids to the storm drain.
- C. The Contractor shall furnish and install an in-line flowmeter with a flow rate indicator and totalizer that has been calibrated within the last 60 days and capable of measuring discharge rates of 100 to 3,000 gallons per minute, being properly sized to the correct pipe diameter in accordance with manufacture's specifications.

END OF SECTION



SECTION 02863
WATER QUALITY ANALYSES

PART 1 GENERAL

1.01 THE REQUIREMENT

- A. This Section covers the water sampling and analyses required during the construction and testing of Well No. 15.
- B. The Contractor shall provide the name and address of a State of Florida certified offsite laboratory that will perform the analyses. The laboratory shall be acceptable to the Engineer and the Owner. Samples will not be collected by the Owner's laboratory personnel or analyzed by the Owner's laboratory.
- C. Water samples will be collected by offsite laboratory personnel or properly trained representatives of the Contractor using containers provided by the laboratory. Groundwater samples shall be collected in accordance with the FDEP standard operating procedures (SOP), FDEP-SOP-001/01, FDEP Quality Assurance Rule, 62-160, FAC.FDEP sampling requirements shall be followed.
- D. All water samples will be transported or shipped to the laboratory immediately upon collection. EPA method sampling protocols (e.g., holding times, preservatives) shall be followed.
- E. Standard laboratory turnaround times are acceptable unless otherwise requested below.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Summary of Work is included in Section 01010.
- C. Mobilization and Cleanup is included in Section 02850.
- D. Drilling is included in Section 02851.
- E. Geophysical and Color Video Logging is included in Section 02853.
- F. Well Step Drawdown Testing is included in Section 02864.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Water Management District (SJRWMD) and local regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, ANSI, and API shall apply, except as referenced herein.
- C. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells

2. AWWA C654 – Disinfection of Wells

- D. The latest revisions of FDEP QA Rule, 62-160, Florida Administrative Code (FAC), shall apply.
- E. Where reference is made to one of the above standards, the revisions in effect at the time of bid opening shall apply

1.04 CONTRACTOR'S RESPONSIBILITY

- A. All water sampling will be performed by a trained water sampling technician familiar with FDEP Standard Operating Procedures.
- B. Contractor shall be responsible for obtaining all necessary local, state and agency permits and completion of summary reports.

1.05 PURPOSE

- A. The purposes of the offsite laboratory analyses are to determine the background water quality in the potential production zones, water quality versus depth profiles, and water quality under stressed (pumped) conditions in the production well.

PART 2 PRODUCTS

2.01 SAMPLE BOTTLES

- A. Sample bottles shall be new with preservatives, if required, bottles with screw caps provided by a State of Florida-certified laboratory

PART 3 EXECUTION

3.01 REQUIRED WATER QUALITY ANALYSES

- A. Reverse Air-Drilling
 - 1. The Contractor shall collect water samples at 30-foot intervals during the drilling of the nominal 12-1/4-inch diameter pilot hole for all reverse-air drilling and have them field analyzed for chloride, total dissolved solids, sulfate, pH and specific conductance.
 - 2. Should chloride values exceed 50 milligrams per liter (mg/L) upon penetration of the top of the UFA until total depth is reached, a grab sample will be collected for major ion analysis via appropriate EPA methods at a certified laboratory for confirmation of the field-tested parameters listed above. The analytical laboratory shall be contracted by and paid for by the Contractor.
- B. Geophysical Logging In-Situ Grab Sampling
 - 1. The Contractor shall collect up to four in-situ grab groundwater samples from different depths throughout the open hole interval for water quality profiling under static conditions. Groundwater samples shall be collected and field analyzed for pH, conductivity, TDS and chloride.

C. Step Drawdown Testing

1. Upon completion of construction and development of Well No. 15, the Contractor shall collect water samples at the end of each step test prior to increasing pumping rate for the next step. The Contractor shall have the water samples field analyzed for chloride, total dissolved solids (TDS), sulfate, total sulfide, pH, temperature and specific conductance. In addition, turbidity and sand content shall be measured in the field at the end of each step test. It is anticipated that there will be four steps in a drawdown test.
2. Drinking Water Standards and Additional Water Quality Parameters – At the end of the last step test, the Contractor shall collect water samples and have them analyzed for Florida primary and secondary drinking water standards (Sections 62-550.310 & 62.550.320, FAC and other parameters listed below). Refer to Table 1.
3. Table 1 outlines the parameters and is provided at the end of this Section. The most current version of the rule (Chapter 62-550.310 & 62.550.320, FAC) shall apply should there be a discrepancy between the table and the rule.

TABLE 1
STEP DRAWDOWN WATER QUALITY PARAMETERS

Primary Drinking Water Standards	
Alachlor	Ethylene Dibromide
Aroclors (PCBs)	Di(2-ethylhexyl) adipate
Alpha, gross	Di(2-ethylhexyl) phthalate
Antimony	Fluoride
Arsenic	Glyphosate
Asbestos	Haloacetic Acids (HAA5)
Atrazine	Heptachlor
Barium	Heptachlor epoxide
Benzene	Hexachlorobenzene
Benzo(a)pyrene	Lindane
Beryllium	Hexachlorocyclopentadiene
Bis(2-ethylhexyl)adipate	Lead
Bis(2-ethylhexyl)phthalate	Mercury
Bromate	Methoxychlor
Cadmium	Nickel
Carbofuran	Nitrate (as N)
Carbon Tetrachloride	Total Nitrate & Nitrate (as N)
Chloramines	Oxamyl
Chlordane	Pentachlorophenol
Chlorine	Picloram
Chlorine dioxide	Radium-226
Chlorite	Radium-228
Chlorobenzene	Selenium
Chromium	2,4,5- TP (Silvex)
Coliforms, total	Simazine
Cyanide	Sodium
2,4-Dichlorophenoxyacetic Acid	Strontium-90
Dalapon	Styrene

Primary Drinking Water Standards	
Dibromochloropropane 1,2-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichloroethane 1,1-Dichloroethylene Cis-1,2-Dichloroethylene Dichloromethane 1,2-dichloropropane Diquat Dinoseb Endothall Endrin Ethylbenzene	Tetrachloroethylene Thallium Toluene Toxaphene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethylene (TCE) Trans-1,2-Dichloroethylene Trihalomethanes (total) Vinyl Chloride Xylenes (total)
Secondary Drinking Water Standards	
Aluminum Chloride Color Copper Corrosivity Ethylbenzene Fluoride Foaming agents (MBAS) Iron	Manganese Odor pH Silver Sulfate Toluene Total Dissolved Solids (TDS) Xylenes (total) Zinc
Other Constituents	
Bicarbonate Alkalinity Calcium Carbonate Alkalinity Hydrogen Sulfide (H ₂ S) Magnesium Potassium Sodium Specific Conductance Total Hardness Total Iron Total Organic Carbon Total Sulfide	

END OF SECTION

SECTION 02864
STEP DRAWDOWN TESTING

PART 1 GENERAL

1.01 REQUIREMENT

- A. The Contractor shall provide all work, materials, and equipment necessary to perform an 8-hour to 10-hour step-drawdown test on Well No. 15 to be located on the northwest corner of the intersection of East 2nd Street and Clark Street.
- B. The Contractor shall provide and operate a submersible pump and water and pressure monitoring equipment for the tests. The Contractor shall be responsible for installing the water level (pressure) measuring equipment in the wells, as directed by the Engineer. The pump shall be installed approximately 30 feet below the anticipated or actual maximum drawdown water level.
- C. The Contractor shall provide equipment for accurately measuring pumping rates. The equipment shall include a flow meter (calibrated within the past 60 days) with a range of 500 gpm to 3,000 gpm. The method of flow measurement is subject to the approval of the Engineer.
- D. Water produced during the test will be discharged in accordance with Specification 02855.
- E. Water quality sampling and field monitoring shall be conducted in accordance with Specification 02863.
- F. In the event of a failure of the pump or pressure monitoring equipment, the Contractor shall repeat the test at no additional cost to the Owner or Engineer.

1.02 RELATED WORK

- A. General Requirements – Division 1.
- B. Drilling is included in Section 02851.
- C. Water Quality Analyses is included in Section 02863.

1.03 REFERENCE TO STANDARDS AND REGULATIONS

- A. The Contractor shall execute the work and complete the project in strict conformance with all laws, rules, regulations, and standards related to the construction of wells in the State of Florida, St. Johns River Management District and local, municipal, and county regulatory agencies.
- B. The latest revisions of standards of AWWA, ASTM, ANSI, and API shall apply, except as referenced herein.
- C. American Water Works Association (AWWA)
 - 1. AWWA A100 – Water Wells
- D. St. Johns River Water Management District (SJRWMD)

1. Applicant's Handbook Consumptive Use Application, Appendix D – *Guidelines for Developing and Conducting an Aquifer Performance Testing Program*, August 14, 2014.

- E. Where reference is made to one of the above standards, the revisions in effect at the time of bid opening shall apply

1.04 CONTRACTOR'S RESPONSIBILITY

- A. All work shall be performed by a certified water well driller, licensed by the State of Florida.
- B. Contractor shall be responsible for obtaining the well construction permit from the SJRWMD.

PART 2 PRODUCTS

2.01 DATA LOGGER

- A. Contractor shall use In-Situ Level Troll 700 data loggers that has the appropriate pressure rating given the anticipated water level drawdown (anticipated to be 60 psi in the pumped wells). The data logger shall be capable of programming data collection tests in step series and at differing collection intervals. The data loggers shall be capable of providing the data in Microsoft Excel format.
- B. A pressure gauge shall be included at the wellhead for above ground measurement for artesian head pressure measurement.

2.02 FLOW METER

- A. A calibrated totalizing flow meter installed in accordance with manufacturers specifications capable of measuring flows from 500 gpm to 3,000 gpm shall be used for the step drawdown tests.

2.03 ELECTRIC TAPE

- A. The Contractor will provide an electric tape for manually measuring groundwater water levels in Well No. 15 during the step drawdown testing.
- B. The electric tape such as manufactured by Solinst or approved equal must be capable of measuring water levels to within 0.01 feet of actual groundwater levels.

2.04 PUMP AND APPURTENANCES FOR DEVELOPMENT AND PUMPING TESTS

- A. The Contractor shall provide and install a test pump and all appurtenances for performing development and pumping tests. The Contractor shall provide the test pump, flow meter, valve, discharge pipe, power supply (including fuel and maintenance), transducer and data logger, stilling wells for housing the data logger and collecting manual measurements and all appurtenances needed for performing the pumping tests. Contractor shall also provide a Rossum Sand Tester, or equal. Butterfly valves will not be allowed for controlling flow during pumping. Ball valves or gate valves may be used to control flow during pumping.
- B. The Contractor will provide a pump for conducting the step drawdown testing. The pump must be capable of producing up to 3,000 gpm from a pumping head of 150 feet with an estimated pump setting of approximately 60 feet bls.

2.05 ROSSUM SAND TESTER

- A. A Rossum Sand Tester manufactured by Roscoe Moss Company will be used to measure the sand content of the produced groundwater throughout the step drawdown test. The applicability and use of the sand tester is described in AWWA Standard A-100-15 – Water Wells.

2.06 STILLING WELLS

- A. The Contractor shall provide two PVC stilling wells provided for collecting water level measurements with the data logger and manual electric tape measurements. The stilling wells shall be large enough diameter for the instruments to fit inside without lodging or wedging. The stilling wells shall have a minimum of 20 feet of slotted screen and capped on the end. The depth of the stilling wells shall extend to five feet above the intake of the pump.

2.07 TURBIDIMETER

- A. The Contractor shall provide a Hach 2100Q Portable Turbidimeter or approved equal for measuring turbidity of produced groundwater from the step drawdown test.

PART 3 EXECUTION

3.01 STEP DRAWDOWN TESTING

- A. At the completion of well development, Well No. 15 shall be pump tested to determine well performance and aquifer properties. The tests will consist of an 8 hour to 10 hour step drawdown test at 50%, 65%, 85% and 100% of estimated capacity of the well (2,500 gpm). The pumping period for each step should be a minimum of 30 minutes and up to a maximum of 2 hours. Pumping rates shall be increased with each step. Drawdown of water levels shall be monitored to 0.01-foot accuracy with data logger as manufactured by In-Situ Level 700 Troll. Recovery of the final step test shall be monitored to 0.01-foot accuracy until the water level within the well has recovered within 0.1 foot of the initial static water level, but for no less than 4 hours.
- B. Prior to the start of any testing, the following equipment shall be installed:
 - 1. Two 1-½-inch nominal inner diameter flush threaded pipe, open only at the top and capped at the bottom, shall be installed as a stilling well. The stilling well shall contain at least 20 feet of slotted screen and suitable for water-level measurement with an In-Situ Level Troll data logger (0.72-in diameter) and electric tape. The top of the pipe shall be installed at or slightly above the top of casing as directed by the Engineer. The bottom of the pipe shall be set at approximately 5 feet ± above the intake of the temporary pump. The inside of the pipe shall be smooth and the pipe shall be sufficiently plumb and straight so that there will be no interference with measurement.
 - 2. A gate valve shall be installed in the discharge pipe near the pumping well.
 - 3. A calibrated flow meter capable of measuring flow rates from 500 gpm to 3,000 gpm shall be installed in the discharge pipe prior to the gate valve and according to manufacturer's specifications to ensure meter accuracy.
- C. During all testing, Contractor shall record discharge rates and water levels in wells at predetermined times. The frequency of measurement will meet or exceed the SJRWMD's

suggested schedule for conducting APTs (Applicant's Handbook Consumptive Use Application, Appendix D). For this purpose, the pump shall be operated without interruption, at no more than 5 percent fluctuation in the designated rate of discharge, during the full period of the step tests as directed by the Engineer.

- D. Sand content shall be determined from a pumping and sampling procedure conducted during the pump test. It is the responsibility of the Contractor to secure prior written approval from the Engineer of any changes in the sand content testing method.
- E. The Contractor shall provide continuous oversight during the 8 hour to 10 hour step drawdown tests to ensure continuous operation of the pump.
- F. Water quality samples will be collected during the step test as described in the Water Quality Sampling Section 02863.

END OF SECTION

APPENDIX B
BID FORM FOR SOLICITATION # 103-17

Construction Services for Main Street (WTP) Well Number 15

Submit an **original, two (2) copies and one (1) CD or thumb drive** along with other required forms in a sealed envelope to: JEA Procurement Dept., 21 W. Church St., Bid Office, Customer Center, 1st Floor, Room 002, Jacksonville, FL 32202-3139.

Company Name: _____

Company's Address _____

License Number _____

Phone Number: _____ FAX No: _____ Email Address: _____

BID SECURITY REQUIREMENTS

- ☐ None required
☒ Certified Check or Bond Five Percent (5%)

TERM OF CONTRACT

- ☐ One Time Purchase
☐ Annual Requirements
☒ Other, Specify- Project Completion

SAMPLE REQUIREMENTS

- ☒ None required
☐ Samples required prior to Response Opening
☐ Samples may be required subsequent to Bid Opening

SECTION 255.05, FLORIDA STATUTES CONTRACT BOND

- ☐ None required
☒ Bond required 100% of Bid Award

QUANTITIES

- ☐ Quantities indicated are exacting
☒ Quantities indicated reflect the approximate quantities to be purchased Throughout the Contract period and are subject to fluctuation in accordance with actual requirements.

INSURANCE REQUIREMENTS

Insurance required

PAYMENT DISCOUNTS

- ☐ 1% 20, net 30
☐ 2% 10, net 30
☐ Other _____
☐ None Offered

ENTER YOUR BID FOR THE FOLLOWING DESCRIBED ARTICLES OR SERVICES	TOTAL BID PRICE
Total Bid Price for Main Street Water Treatment Plant well number 15 (from Bid Workbook)	\$

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

BIDDER CERTIFICATION

By submitting this Bid, the Bidder certifies that it has read and reviewed all of the documents pertaining to this Solicitation, that the person signing below is an authorized representative of the Bidding Company, that the Company is legally authorized to do business in the State of Florida, and that the Company maintains in active status an appropriate contractor's license for the work (if applicable). The Bidder also certifies that it complies with all sections (including but not limited to Conflict Of Interest and Ethics) of this Solicitation.

We have received addenda _____

_____ through _____

Handwritten Signature of Authorized Officer of Company or Agent Date

Printed Name and Title