

**NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT**  
**INVITATION TO BID NO. 21B-005**  
**WELL CONSTRUCTION AND AQUIFER TESTING IN GULF COUNTY, FLORIDA**

The Northwest Florida Water Management District (District) is soliciting bids from qualified well drilling CONTRACTOR(s) for the construction of one (1) Floridan aquifer monitor well, up to three (3) intermediate aquifer wells (one test production well and two monitor wells) and one (1) surficial aquifer monitor well. The wells will be constructed at a site in southern Gulf County (White City), northeast of the City of Port St. Joe (Attachment A, Figure 1). Current plans are to utilize the former Gulf County Park located at 6697 Gardenia Street.

A 24-hour specific capacity test will be performed on the intermediate aquifer test production well. A three to seven-day multi-well aquifer performance test (APT) is planned at the study site for the intermediate aquifer. Work must be scheduled to accomplish both drilling and APT activities in a single mobilization. **It is anticipated that the proposed work will start no later than October 2021 and take approximately three (3) months to complete.**

**The deadline for submission of bids is 2:00 P.M. Eastern Time (ET), June 1, 2021.** The opening of the sealed bids will be livestreamed and can be viewed by clicking on the following link: <https://www.nfwwater.com/Contact-Us/Meetings>. Provisions will be made to accommodate the handicapped (if requested) provided the District is given at least 72 hours advance notice. All bids must conform to the instructions in the Invitation to Bid (ITB) and comply with applicable Florida Statutes. Interested parties may obtain a copy of the complete ITB package from the District's website (<http://www.nfwwater.com>). A copy of the complete ITB package may be obtained from the State of Florida's Vendor Bid System website at: [http://www.myflorida.com/apps/vbs/vbs\\_main\\_menu](http://www.myflorida.com/apps/vbs/vbs_main_menu). A copy of the complete ITB package can also be obtained at the above address or by calling (850) 539-5999.

There will be a **virtual, pre-response meeting** for this solicitation on **May 18, 2021, 2:00 – 3:00 P.M. Eastern Time**. The pre-response meeting will be livestreamed and can be joined by clicking on the following link: <https://www.nfwwater.com/Contact-Us/Meetings>. **Participation is not required but is highly recommended.**

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**PART 1**  
**GENERAL INFORMATION**

**1.1 DEFINITIONS**

For the purpose of this bid, “respondent” or “bidder” means contractor, vendors, consultants, organizations, firms, purchaser, or other persons submitting a response to this Invitation to Bid.

**1.2 PURPOSE**

The Northwest Florida Water Management District, 81 Water Management Drive, Havana, Florida 32333, (hereinafter referred to as the “District”) is issuing this Invitation to Bid (ITB) for the project titled **“WELL CONSTRUCTION AND AQUIFER TESTING IN GULF COUNTY, FLORIDA.”**

**1.3 ISSUING OFFICE, DATE AND ITB OPENING**

Northwest Florida Water Management District (Headquarters)

Attn: Agency Clerk  
81 Water Management Drive  
Havana, Florida 32333-4712

**THE DISTRICT MUST RECEIVE ALL BIDS BY 2:00 P.M. EASTERN TIME (ET),  
JUNE 1, 2021, THE DAY OF THE PUBLIC OPENING.**

The opening of the sealed bids will be livestreamed and can be viewed by clicking on the following link: <https://www.nwfwater.com/Contact-Us/Meetings>.

**1.4 INVITATION TO BID**

The District solicits bids for services of a responsive Florida Licensed Water Well Contractor to provide well drilling, logging, and construction services, as well as, setup and conduct a multi-well aquifer performance test per the technical specifications in the ITB. The contractor shall furnish all materials, labor and equipment, tools, incidentals, transportation, and all services necessary for the completion of these tasks.

**1.5 AWARDING OF BID**

The District anticipates entering into a contract with the bidder who submits a qualified responsive bid judged by the District to be the lowest cost for the specified services. The District reserves the right to award the bid to the next lowest responsive bidder in the event the successful respondent fails to enter into the Agreement, or the Agreement with said respondent is terminated within 90 days of the effective date.

**The respondent understands that this bid does not constitute an agreement or a contract with the District. An official contract or agreement is not binding until the bids are reviewed and accepted by appointed staff, approved by the appropriate level of authority within the District, and the contract or agreement is executed by both parties.**

The District reserves the right to reject any and all bids, to negotiate with the qualified bidder submitting the lowest responsive bid, to waive any irregularities of a minor nature, and to solicit and re-advertise for other bids. Mistakes clearly evident on the face of the bid documents, such as computation errors, may be corrected by the District. Per section 255.0991, F.S., the District has no regulation that provides contractor preference as described in that statute.

All bids may be subject to the approval of the Northwest Florida Water Management District Governing Board at a duly noticed Board meeting.

Notice of a bid award shall be posted to the District's website and the State of Florida's Vendor Bid System website.

## **1.6 DEVELOPMENT COSTS**

The District shall not be responsible or liable for any expenses incurred in connection with the preparation of a response to this bid. Respondents should prepare the bid simply and economically, to provide a straightforward and concise description of the respondent's ability to meet the requirements of the bid.

## **1.7 CONFLICT OF INTEREST**

The award hereunder is subject to Chapter 112, Florida Statutes. All bidders shall disclose with their bids the name of any officer, director, board member or agent who is also an employee of the State of Florida, or any of its agencies. Further, all bidders shall disclose the name of any state employee or any board member or employee of the District who owns directly or indirectly an interest of five percent (5%) or more in the bidder's firm, subsidiaries or branches.

## **1.8 DISTRICT FORMS AND RULES**

When included, all forms supplied by the Northwest Florida Water Management District shall be submitted with the bids. All bids must comply with applicable Florida Statutes, laws, and rules.

## **1.9 VIRTUAL PRE-RESPONSE MEETING**

There will be a virtual, pre-response meeting for this solicitation on **May 18, 2021, 2:00 – 3:00 P.M. Eastern Time**. The pre-response meeting will be livestreamed and can be joined by clicking on the following link: <https://www.nfwfwater.com/Contact-Us/Meetings>. Participation is not required but is highly recommended.

## **1.10 ORAL PRESENTATIONS**

There will not be oral presentations for this solicitation.

## 1.11 INQUIRIES

All questions regarding this ITB shall be directed in writing to the Procurement Officer, Sarah Bateman: Sarah.Bateman@nwfwater.com **no later than 2:00 PM. Eastern Time (ET) on May 19, 2021**. Written inquiries shall reference the date of the ITB opening and ITB title and number.

The District will post addenda and answers to substantive questions on its website and on the State of Florida's Vendor Bid System website at least ten (10) calendar days before the bid opening date (see *Section 1.16 Addenda*). Firms are responsible to check the District's website or State of Florida's Vendor Bid System website for addenda.

## 1.12 TIMETABLE

The District and respondents shall adhere to the following schedule in all actions concerning this bid.

- A. On **April 29, 2021**, the District issues the Invitation to Bid.
- B. A virtual, pre-response meeting will be held from 2:00 – 3:00 P.M. on **May 18, 2021\***.
- C. From the time of issuance on **April 29, 2021** until 2:00 PM. Eastern Time (ET) on **May 19, 2021**, the District will receive written inquiries on the ITB.
- D. If substantive questions are received, the District will issue an Addendum at least ten (10) calendar days prior to bid opening.
- E. Bid Opening Deadline: The sealed bids will be opened at 2:00 P.M. Eastern Time (ET), **June 1, 2021\***. Bids received after the bid opening deadline will not be considered.
- F. From opening time, the District will review and evaluate the bids on a timely basis.
- G. The District may enter into a contract with the qualified contractor submitting the lowest responsive bid after conducting negotiations and obtaining appropriate approvals.

\*Denotes a public meeting.

## 1.13 DELAYS

The District may delay scheduled due dates if it is to the advantage of the District to do so. The District will notify respondents of all changes in scheduled due dates by posting the information to the District's website and State of Florida's Vendor Bid System website.

## 1.14 SUBMISSION AND WITHDRAWAL

The respondent must submit the bid in person, by mail, or courier such as UPS to this address:

Northwest Florida Water Management District  
Attn: Agency Clerk  
81 Water Management Drive  
Havana, FL 32333-4712

**Please be advised that mail delivery to the District is not always by 2:00 P.M. Eastern Time.** Bids not submitted to this address do not constitute “delivery” and is not considered “received by” the District as required by this ITB.

Respondents shall submit one printed copy and one electronic copy in pdf format on a new flash drive of the bid in a sealed, opaque envelope or box. **The face of the envelope or box shall state in capital letters:**

**“SEALED BID FOR ITB 21B-005, WELL CONSTRUCTION AND AQUIFER TESTING IN GULF COUNTY, FLORIDA TO BE OPENED, JUNE 1, 2021 AT 2:00 P.M. (EASTERN TIME) AT THE HEADQUARTERS OF THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT”**

The exterior of the sealed envelope or box shall also include the respondent’s name and business address, regardless of whether submittal is in person, by mail, or courier. **Bids received by the bid opening deadline but not properly sealed and labeled shall not be considered.**

It is the respondent's responsibility to ensure that his/her bid submission is delivered at the proper time and place of the opening. **Bids that are for any reason received after the established deadline will not be considered.** Due to the public health emergency concerning the novel Coronavirus (COVID-19), the District’s headquarters located at 81 Water Management Drive is closed to the public at this time, but still receiving postal and courier deliveries. Limited staff remain on-site during regular business hours, 8:00 a.m. to 5:00 p.m. ET. If a respondent chooses to hand deliver a sealed bid in person during regular business hours, and a receptionist is unavailable, a phone number will be posted on the front entrance door to the main building for assistance. Additionally, if a respondent would like telephone or written confirmation of timely receipt of the bid, please call the District’s main line at (850) 539-5999.

A respondent may withdraw a bid by notifying the District in writing at any time prior to the opening. Respondents may withdraw bids in person or through an authorized representative. Respondents and authorized representatives must disclose their identity and provide a signed receipt for the bid. Bids, once opened, become the property of the District and will not be returned to the respondents.

All bids must be made on the required **Bid Sheet and Bidder Acknowledgement** (see PART 5 of this ITB). All blank spaces for bid prices must be filled in, in ink or typewritten, and the form must be fully completed and executed when submitted.

Respondents must satisfy themselves of the accuracy of their response in the **Bid Sheet and Bidder Acknowledgement** by examination of the criteria and specifications including addenda. After bids have been submitted, respondents shall not assert that there was a misunderstanding concerning the number or type of parameters nor the accuracy required of each parameter.

Bids received by the District in response to this ITB will become a public record (unless an exemption to Florida’s Public Records Law applies) when the District provides notice of its intended decision or 30 days after opening the bids, whichever is earlier. If the District rejects all bids and concurrently provides notice of its intent to reissue the ITB, the rejected bids remain

exempt from Florida's Public Records Law until such time as the District provides notice of an intended decision concerning the reissued ITB or until it withdraws the reissued ITB. A bid is not exempt for longer than 12 months after the initial notice rejecting all bids.

Bids will be made available for inspection at the time the District posts notice of its decision or intended decision concerning contract awards or 30 days after the bid opening, whichever is earlier.

### **1.15 BID BOND**

**A bid bond will be required as described in Part 3, Section 3.3.**

### **1.16 ADDENDA**

If addenda become necessary, the District will provide written addenda and post addenda on the District's website and on the State of Florida's Vendor Bid System website at least ten (10) calendar days before the bid opening date. Prospective bidders are responsible for determining whether addenda have been issued and are advised to check the websites or with the District's Procurement Officer prior to submitting their bid.

Submission of a bid constitutes acknowledgment of receipt of all addenda. Bids will be construed as though all addenda have been received. Failure of the respondent to obtain any addenda does not relieve respondent from any and all obligations under the bid, as submitted. All addenda become part of the Agreement.

### **1.17 EQUAL OPPORTUNITY**

The District recognizes fair and open competition as a basic tenet of public procurement. Respondents doing business with the District are prohibited from discriminating on the basis of race, color, creed, national origin, handicap, age, sex, or disability. It is the policy of the District to ensure that qualified respondents wishing to participate in the procurement process have the maximum opportunity to compete and perform on District contracts and purchases.

The District encourages participation by minority-, veteran-, and women-owned Certified Business Enterprises and requests that firms submit evidence of such designation with their bids. For further information on designation as a certified business enterprise, visit [www.dms.myflorida.com/agency\\_administration/office\\_of\\_supplier\\_diversity\\_osd/get\\_certified](http://www.dms.myflorida.com/agency_administration/office_of_supplier_diversity_osd/get_certified).

### **1.18 CONVICTED VENDORS**

Pursuant to s. 287.133(2)(a), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the



convicted vendor list. Questions regarding the convicted vendor list may be directed to the Florida Department of Management Services, State Purchasing Division, at (850) 488-8440 or send email to [purchasingcustomerservice@dms.myflorida.com](mailto:purchasingcustomerservice@dms.myflorida.com) .

### **1.19 DISCRIMINATORY VENDOR LIST**

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity. The Florida Department of Management Services is responsible for maintaining the discriminatory vendor list and posts the list on its website. Questions regarding the discriminatory vendor list may be directed to the Florida Department of Management Services, State Purchasing Division, at (850) 488-8440 or send email to [purchasingcustomerservice@dms.myflorida.com](mailto:purchasingcustomerservice@dms.myflorida.com) .

### **1.20 SCRUTINIZED COMPANIES, BOYCOTTING**

Pursuant to s. 287.135, F.S., a company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with the District for goods or services of:

- (1) Any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, F.S., or is engaged in a boycott of Israel; or
- (2) One million dollars or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company:
  - a. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473; or
  - b. Is engaged in business operations in Cuba or Syria.

By submitting a response, the respondent certifies that it is not currently on the aforementioned lists or engaged in such business operations and agrees to notify the District if placement on one of these lists occurs or the Contractor engages in such business operations. If the respondent submits a false certification, the District may terminate the Agreement and bring a civil action against the respondent, as provided for in s. 287.135, F.S.

### **1.21 INSPECTOR GENERAL COOPERATION**

Prospective contractor or vendor understands and shall comply with section 20.055(5), Florida Statutes, which states: “It is the duty of every state officer, employee, agency, special District, board, commission, contractor, and subcontractor to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing pursuant to this section.”

## **1.22 COMPLIANCE WITH HEALTH AND SAFETY REGULATIONS**

Prospective contractor or vendor shall comply with all applicable federal, state and local rules and regulations in providing services to the District. This requirement includes compliance with all applicable federal, state, and local health and safety rules and regulations.

## **1.23 INSURANCE**

The prospective Contractor, if awarded a contract, shall maintain insurance coverage. In the event a contract is awarded to a governmental entity or a self-insured organization, different insurance requirements may apply. Misrepresentation of any material fact, whether intentional or not, regarding the bidder's insurance coverage, policies, or capabilities may be grounds for rejection of the bid and rescission of any ensuing contract. The Contractor shall obtain all coverage as required by Florida law, including Workers Compensation and applicable professional liability insurance. Additionally, the Contractor shall be insured as follows: General Liability, with limits not less than \$1,000,000 per occurrence; \$1,000,000 per occurrence for personal injury; and \$1,000,000 for property damage; Automobile Liability, with combined single limit of not less than \$1,000,000; Workers Compensation and Employers Liability, with limits not less than: Bodily Injury by Accident \$1,000,000 each accident; Bodily Injury by Disease \$1,000,000 policy limit; and Bodily Injury by Disease \$1,000,000 each employee.

Evidence of all such insurance satisfactory to the District shall be furnished with the executed Agreement prior to beginning work, and all such insurance policies shall provide for a ten (10) business day notice to the District of cancellation or any material change in the terms of the insurance policies.

## **1.24 PROHIBITED CONTACT**

Respondents to this solicitation or persons acting on their behalf shall not contact, between the release of the solicitation and the end of the 72-hour period following the District posting the notice of intended award, excluding Saturdays, Sundays, and state holidays, any employee or officer of the District or executive or legislative branch concerning any aspect of this solicitation, except in writing to the Procurement Officer or as provided in the solicitation documents. Violation of this provision may be grounds for rejecting a response.

## **1.25 SPECIFICATION AND AWARD PROTEST**

Any person who is adversely affected by the District's award shall file with the District a notice of protest in writing within 72 hours after the posting of the award. With respect to a protest of the terms, conditions, and specifications contained in this ITB, including any provisions governing the methods for ranking bids, awarding contracts, reserving rights of further negotiation, or modifying or amending any contract, the notice of protest shall be filed in writing within 72 hours after the posting of the ITB or the addenda to the ITB that contains the new term, condition or specification that is protested. The formal written protest shall be filed within 10 days after the date the notice of protest is filed with a bond pursuant to Section 287.042(2)(c), Florida Statutes. The failure to file a notice of protest or failure to file a formal written protest shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. The formal written protest shall state with particularity the facts and law upon which the protest is based. Saturdays,

Sundays, and state holidays shall be excluded in the computation of the 72-hour time periods. **The failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.**

#### **1.26 PUBLICITY**

The respondent shall obtain prior approval of the District for all news releases or other publicity pertaining to this bid or the service or any project to which it relates.

#### **1.27 WAIVER OF MINOR IRREGULARITIES**

The District may waive minor irregularities in bids received where such is merely a matter of form and not substance. Minor irregularities are defined as any deviation from a mandatory requirement of the ITB that, if waived, will not have an adverse effect on the District's interest and will not give a respondent an advantage or benefit not enjoyed by the other respondents. The District is not required to waive a minor irregularity and has the sole discretion to determine whether a minor irregularity should be waived.

**PART 2**  
**SCOPE OF SERVICES**

The Scope of Services and Technical Specifications are provided in Attachment A.

## PART 3

### BID REQUIREMENTS

#### 3.1 RULES FOR THE BIDS

- A. All bids must comply with applicable Florida Statutes, laws, and rules.
- B. **One printed copy** and one electronic copy in pdf format on a new flash drive of the bid must be submitted in a properly marked envelope or box in person, by mail, or commercial courier. See PART 1, *Section 1.14 Submission and Withdrawal* of this ITB for further details.
- C. All bidders shall furnish evidence of its qualifications by completing, signing, and submitting the **Bidder Information Form** (see PART 3, *Section 3.2* and PART 6).
- D. All bids shall be completed and submitted on the attached **Bid Sheet and Bidder Acknowledgement** (PART 5) and must be accompanied by a **Bid Bond** (See PART 3, *Section 3.3*).
- E. The District is not subject to Florida sales tax or to any federal excise taxes on all sales made **directly** to the District, and neither shall be included in the bid price.
- F. Any transportation or other charges incurred in the delivery of products or services as specified must be included in the bid price, as noted on the bid sheet.
- G. All costs whether direct or indirect which will be ultimately paid by the District must be included in the price on the **Bid Sheet and Bidder Acknowledgement** (PART 5). Any indirect, overhead, profit margin or other such costs, however named, must also be included in the bid price.
- H. The award hereunder is subject to Chapter 112, Florida Statutes. All bidders shall disclose with their bids the name of any officer, director, board member, or agent who is also an employee of the State of Florida, or any of its agencies. Further, all bidders shall disclose the name of any state employee or any board member or employee of the District who owns directly or indirectly an interest of five percent (5%) or more in the bidder's firm, subsidiaries or branches.

#### 3.2 BIDDER QUALIFICATIONS

Respondents to this ITB are required to meet the following qualification and experience criteria:

- A. Must hold an active Florida Water Well Contractor license;
- B. Must have no less than five (5) years of experience constructing wells and performing the services described in the **Technical Specifications**;
- C. Must have constructed within the last five (5) years a minimum of three (3) screened monitor wells (completed in unconsolidated/semi-consolidated sediments and each having a total well depth that equals or exceeds 200 feet) and two (2) open-hole wells

(completed in consolidated rock formations and each having total well depths that equal or exceed 500 feet). The wells must have been constructed all or in part by the methods proposed in the **Technical Specifications** with a minimum final (primary) casing diameter of at least four (4) inches. The two open-hole wells must have final well casing depths that equal or exceed 300 feet and all wells must have casing fully grouted using neat Portland cement;

- D.** Must have conducted a minimum of two (2) multi-well aquifer performance tests (APTs) lasting 24 hours or more within the last five (5) years;
- E.** Must have enough qualified personnel and equipment necessary to complete all work proposed in the **Technical Specifications** throughout the project duration as scheduled and in support of well drilling, logging, construction, and testing;
- F. Must not have either** 12 or more points issued against his/her Florida Water Well Contractor License within the last three (3) years, **or** any order(s) against his/her water well license issued under the authority of Part III, Chapter 373, Florida Statutes, with which the licensed well contractor has not complied;
- G. Must not have** known or potential conflicts-of-interest in performing tasks as requested in the **Technical Specifications**; and
- H. Must not have** litigation filed against the bidder in the states of Florida, Alabama, or Georgia as related to water well construction activities within the last three (3) years.
- I.** Any subcontractors used by the bidder to complete proposed work in this ITB must be identified and must meet the criteria listed above to perform the task for which they are hired (e.g. if drilling then must hold Florida Water Well Contractor License and complete wells meeting the requirements in 1.7.C, above, etc.).

Bidders must complete, sign, and submit with their bid the **Bidder Information Form** (see PART 6) to support and document the qualification and experience criteria listed above.

The successful bidder shall supply the names and addresses of major material suppliers, sub-vendors and subcontractors when requested to do so by the District.

### **3.3 BID BOND AND PERFORMANCE BOND**

In addition to the bid, bidders must submit a bid bond in the form of a company check, cashier's check, money order or surety bond in the amount equal to five percent (5%) of the total bid amount. The bid bond will be returned upon completion of the bid opening or after the award of contract by the District to the successful bidder. After award of the contract, the successful bidder must then provide a performance bond.

A performance bond in the amount of one-hundred percent (100%) of the contract price, with a corporate surety approved by the District, will be required for the faithful performance of the contract. A certified Cashier's Check made payable to "NFWWMD" may be provided to the District, in lieu of a performance bond.

Attorneys-in-fact who sign bid bonds and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

The successful bidder will be required to execute the contract and obtain the performance bond within ten (10) calendar days once the awarded bidder is notified by the District Project Manager. In case of failure of the bidder to execute the Agreement, the District may at its option consider the bidder in default, in which case the bid bond accompanying the bid proposal shall become the property of the District.

### 3.4 VENDOR REGISTRATION AND W-9 FORMS

The successful bidder will be required to complete a Vendor Registration Form and W-9 Form once the awarded bidder is notified by the District Project Manager.

### 3.5 VENDOR CHECKLIST

Please review the checklist for this bid (ITB No. 21B-005) to ensure that you have properly followed the instructions. Many bids and proposals are rejected because the respondent simply failed to comply with required preparation and submission requirements.

- Have you performed a final review of your bid to ensure you included all required documentation? **The omission of required items will result in rejection of the bid.**
- Have you completed, signed, and included the **Bidder Information Form**?
- Have you completed, signed, and included the **Bid Sheet and Bidder Acknowledgement (pages 17 through 21)**? Have you verified all amounts to ensure that they are complete and accurate?
- If a conflict of interest exists as described in PART 1, *Section 1.7 Conflict of Interest*, have you included a statement of disclosure?
- Have you included a **Bid Bond** of five percent (5%) as described in PART 3, *Section 3.3 Bid Bond and Performance Bond*?
- Have you selected the method of shipping (in person, by mail, or commercial courier) that will ensure that your bid will arrive before the deadline?
- Is your envelope properly marked and is there one printed copy of the bid included? See PART 1, *Section 1.14 Submission and Withdrawal* of this ITB for further details. All incoming correspondence is opened when received unless properly marked for a specified opening date and time. If your bid is opened prior to the designated date and time, it cannot be considered.

**PART 4**  
**EVALUATION OF BIDS**

**4-1 EVALUATION CRITERIA**

The contract will be awarded in the best interest of the District, based on the lowest estimated total cost to the District, from those bids submitted by bidders considered qualified by the District and able to perform the work in the time allowed as described in this ITB. The District anticipates awarding the contract to the bidder that meets the following criteria:

- A. Bidder must meet the qualification and experience criteria as described in PART 3, *Section 3.2 Bidder Qualifications*.
- B. Bidder submits a qualified responsive bid judged by the District to be the lowest cost for the specified services.
- C. If two or more bids are tied, the tie will be broken by the respondent earning the most points from the following, each being assigned one point for a total of up to three points: (1) to the respondent that certifies compliance with s. 287.057(11), F.S., as a certified minority business enterprise; (2) to the respondent that certifies compliance with s. 295.187(4), F.S., as a certified veteran's business enterprise; and (3) to the respondent that certifies compliance with s. 287.087, F.S., having implemented a Drug-Free Workplace program. If there is still a tie, the tie will be broken by lot (for example, coin toss).



**PART 5**

**BID SHEET AND BIDDER ACKNOWLEDGMENT FORM**

All prices shall be provided below. This form will be utilized for award of the bid. The District reserves the right to increase or decrease items or quantities in accordance with District needs and budgetary constraints. **ALL UNIT PRICES WILL REMAIN FIXED DURING THE CONTRACT PERIOD.**

<b>Bid Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Bid Item Cost</b>
A	Mobilization and Site Preparation	Lump Sum		1	
<b>Item A Total</b>					

<b>Bid Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Bid Item Cost</b>
B	<b>FLORIDAN AQUIFER MONITOR WELL (FAS-M1)</b>				
B-1	Install, centralize, and cement 12-inch diameter, SCH 80 PVC surface casing to approximately 110 ft bls	Linear Feet		110	
B-2	Drill 11 7/8-inch diameter borehole from bottom of surface casing to approximately 340 ft bls	Linear Feet		230	
B-3	Run caliper, natural gamma, SP, SPR, and long/short electric logs (standard suite)	Lump Sum		1	
B-4	Install, centralize, and cement 6-inch diameter primary, SCH 40 PVC casing to approximately 340 ft bls.	Linear Feet		340	
B-5	Drilling 5 7/8-inch borehole to 500 ft bls	Linear Feet		160	
B-6	Drilling 5 7/8-inch borehole from 500 ft to approximately 920 ft bls with reverse-air sampling at 20' intervals.	Linear Feet		420	
B-7	Run caliper, natural gamma, SP, SPR, and long/short electric logs (standard suite). Run fluid resistivity logs.	Lump Sum		1	

**BID SHEET AND BIDDER ACKNOWLEDGMENT FORM (cont.)**

B-8	Backplug borehole to monitoring depth (~650 ft bls) with neat cement.	Linear Feet		270	
B-9	Clean out borehole to monitoring depth and develop well by direct-air	Unit Hour		6	
B-10	If directed, develop well by high-capacity pumping	Unit Hour		6	
B-11	Wellhead Completion	Lump Sum		1	
<b>Item B Total</b>					

<b>C INTERMEDIATE AQUIFER TEST PRODUCTION WELL (IAS-1)</b>					
<b>Bid Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Bid Item Cost</b>
C-1	Install, centralize, and cement 18-inch diameter, black steel, pit casing to approximately 120 ft bls	Linear Feet		120	
C-2	Drill 17 1/2-inch diameter borehole from bottom of pit casing to approximately 300 ft bls	Linear Feet		180	
C-3	Install, centralize, gravel pack, seal and cement approximately 300 ft of 10-inch diameter continuous steel casing and screen per technical specifications. Allow minimum 72-hr grout set time.	Linear Feet		300	
C-4	Develop well by surge-block/pumping method	Unit Hour		24	
C-5	Perform 24 Hour Specific Capacity Test	Lump Sum		1	
C-6	Wellhead Completion	Lump Sum		1	
<b>Item C Total</b>					

**BID SHEET AND BIDDER ACKNOWLEDGMENT FORM (cont.)**

<b>D</b>					
<b>INTERMEDIATE AQUIFER APT MONITORING WELLS (IAS-M1 and IAS-M2)</b>					
<b>Note: item quantity is total units needed for two identical wells.</b>					
<b>Bid Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Bid Item Cost</b>
D-1	Install, centralize, and cement 10-inch diameter, SCH 80 PVC surface casing to approximately 120 ft bls	Linear Feet		240	
D-2	Drill nominal 9-7/8-inch diameter borehole from bottom of pit casing to approximately 300 ft bls	Linear Feet		360	
D-3	Install, centralize, sand pack, seal and cement approximately 300 ft of 4-inch diameter SCH 40 PVC casing and screen per technical specifications	Linear Feet		600	
D-4	Develop well by surge-block/pumping method	Unit Hour		8	
D-5	Wellhead Completion	Lump Sum		2	
<b>Item D Total</b>					

<b>E</b>					
<b>SHALLOW AQUIFER APT MONITORING WELL (SAS-M1)</b>					
<b>Bid Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Bid Item Cost</b>
E-1	Drill nominal 9-7/8-inch diameter borehole from land surface to approximately 100 ft bls	Linear Feet		100	
E-2	Install, centralize, sand pack, seal and cement approximately 100 ft of 4-inch diameter SCH 40 PVC casing and screen per technical specifications	Linear Feet		100	
E-3	Develop well by surge-block/pumping method	Unit Hour		4	
E-4	Wellhead Completion	Lump Sum		1	
<b>Item F Total</b>					

**BID SHEET AND BIDDER ACKNOWLEDGMENT FORM (cont.)**

F					
AQUIFER PERFORMANCE TEST AND DEMOBILIZATION					
Bid Item #	Description	Unit	Unit Price	Quantity	Bid Item Cost
F-1	Perform aquifer performance test as coordinated with the GEOLOGIST and as described in Section 1007 - 5.E, "Aquifer Performance Testing"	Lump Sum		1	
F-2	Cleanup and restore site and demobilize.	Lump Sum		1	
<b>Item F Total</b>					

G					
EXTRA WORK ITEMS (AS NEEDED)					
Bid Item #	Description	Unit	Unit Price	Quantity	Bid Item Cost
G-1	Portland Cement, including cost of placement in borehole	94 lbs Bag		1	
G-2	Bentonite (Quick Gel), including cost of placement	50 lbs Bag		1	
G-3	Sand/Gravel Pack Filter, including cost of placement in borehole	50 lbs Bag		1	
G-4	Extra Work – Drilling Crew with Drilling Equipment	Unit Hour		8	
G-5	Extra Work – Crew with Pump Hoist	Unit Hour		8	
G-6	Extra Work – Drilling or other Crews	Unit Hour		8	
G-7	Standby Time – Rig and Drilling Crew On Site	Unit Hour		8	
G-8	Standby Time – Rig on Site and Crew Off Site	Unit Hour		8	
G-9	Extend Multi-well Aquifer Performance Test	Per 24-Hours		1	
G-10	Drumming of contaminated cuttings and drilling fluids	Per Drum		2	
G-11	Water Quality Sampling	Per Set		1	
<b>Item G Total</b>					

**BID SHEET AND BIDDER ACKNOWLEDGMENT FORM (cont.)**

<b>TOTAL BASE BID</b>		
<b>Item#</b>	<b>Description</b>	<b>Total</b>
A	Mobilization and Site Preparation	
B	Floridan Aquifer Apt Monitoring Well (FAS-M1)	
C	Intermediate Aquifer Test Production Well (IAS-1)	
D	Intermediate Aquifer Apt Monitoring Wells (IAS-M1 and IAS-M2)	
E	Shallow Aquifer Apt Monitoring Well (SAS-M1)	
F	Aquifer Performance Test and Demobilization	
G	Extra Work Items (As Needed)	
<b>BID TOTAL</b>		

**BIDDER ACKNOWLEDGMENT**

I, the undersigned, having read all parts of this Invitation to Bid, ITB No. 21B-005, titled **“WELL CONSTRUCTION AND AQUIFER TESTING IN GULF COUNTY, FLORIDA,”** including any and all Addenda, and having a comprehensive understanding of all provisions, rules, requirements, restrictions, etc. contained herein, agree to same and respectfully submit the bid contained herein.

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Position or Title

\_\_\_\_\_  
Printed Name of Above Signature

\_\_\_\_\_  
Agency or Company

**Unsigned bids shall be rejected by the Agency Clerk of the Northwest Florida Water Management District.**

**PART 6**  
**BIDDER INFORMATION FORM**

1. Bidder Information			
Bidder Firm Name:			
Contact Person Name & Title:			
Mailing Address:			
City, State & Zip:			
Contact Phone Number:		Fax Number:	
E-mail Address:			
Florida Water Well Contractor License #:			
Federal Employer ID			

2. Subcontractor Information (if necessary, please attach information for additional subcontractors)			
Subcontractor 1 Firm Name:			
Mailing Address:			
City, State & Zip:			
Type of Work (well drilling, geophysical logging, etc.):			
Federal Employer ID #:			
Florida Water Well Contractor License # (if drilling):			
Subcontractor 2 Firm Name:			
Mailing Address:			
City, State & Zip:			
Type of Work (well drilling, geophysical logging, etc.):			
Federal Employer ID #:			
Florida Water Well Contractor License # (if drilling):			

3. Well Construction Experience (all fields in table below must be completed)								
<p>Bidders (or subcontractors hired to drill) must have a minimum of five (5) years' experience and have constructed a minimum of three (3) screened monitor wells (completed in unconsolidated/semi-consolidated sediments and each having a total well depth that equal or exceeds 200 feet) and two (2) open-hole wells (completed in consolidated rock formations and each having total well depths that equal or exceed 500 feet) within the last five (5) years. The wells must have been constructed all or in part by the methods proposed in the <b>Technical Specifications</b> with a minimum final (primary) casing diameter of at least four (4) inches. The two (2) open-hole wells must have final well casing depths that equal or exceed 300 feet and all wells must have casing fully grouted using neat Portland cement.</p>								
#	Permit #	Dia (in)	TD (ft-bls)	CD (ft-bls)	Drilling Method	Client Company/ Org Name	Client Contact Name	Client Phone #
1								
2								
3								
4								
5								
<p><b>Permit#</b> = enter well construction permit number; <b>Dia(in)</b> = enter well diameter in inches  <b>TD (ft-bls)</b> = enter total depth of well in feet below land surface; <b>CD (ft-bls)</b> = well casing depth, feet below land surface  <b>Method</b> = enter construction method code: HA (hollow-stem auger), HR (hydraulic rotary), AR (air rotary), RA (reverse-air rotary) and completion type: screened (S) or open hole (O). example: hollow-stem auger -screened = HA-S</p>								

**BIDDER INFORMATION FORM (continued)**

<b>4. Multi-Well Aquifer Performance Test Experience (please attach related info on subcontractors)</b>							
Bidders (or subcontractors hired to conduct tests) must have conducted a minimum of two (2) multi-well aquifer performance tests (APTs) lasting 24 hours or more within the last five (5) years. Please provide details and references on the two (2) qualifying APTs. The same reference can be used to verify experience for both APTs if both were performed for the same client. List qualifying information in table below.							
#	Test Type	Duration (hrs)	Discharge (gpm)	# Obs Wells	Client Company/Org Name	Client Contact Name	Client Phone #
1							
2							
<b>Test Type</b> = enter constant (discharge) or step (drawdown) <b>Duration (hrs)</b> = enter length of test in hours <b>Discharge (gpm)</b> = enter average discharge for constant or maximum discharge for step <b># Obs Wells</b> = enter number of observation wells monitored during the test							

<b>5. Additional Water Well Licensing (if licensed by another state or governmental agency)</b>					
#	State	License #	Regulating Agency Name	Agency Contact Name	Phone #
1					
2					
3					
4					

<b>6. Additional Qualification Criteria (please attach any supporting documentation requested below)</b>
In addition to the experience requested above, the bidder must also meet and attest to the following: <ul style="list-style-type: none"> <li>• The bidder <u>must</u> have enough experienced and qualified personnel and equipment necessary to complete all work proposed in the <b>Technical Specifications</b> for ITB No. 21B-005.</li> <li>• The bidder <u>must not</u> have either 12 or more points issued against his/her Florida water well contractor license within the last three (3) years, or any order(s) against his/her water well license issued under the authority of Part III, Chapter 373, Florida Statutes, with which the licensed well contractor has not complied.</li> <li>• The bidder <u>must not</u> have known or potential conflicts-of-interest in performing tasks as requested in the <b>Technical Specifications</b> for ITB No. 21B-005.</li> <li>• The bidder <u>must not</u> have pertinent litigation filed against the Contractor in the states of Florida, Alabama, or Georgia related to water well construction activities during the last three (3) years.</li> </ul>

<b>7. Bidder's Statement of Qualification</b>	
"I understand that the above qualification and experience criteria are required to submit a bid in response to ITB No. 21B-005. By signing this application, I acknowledge that all qualifications and experience criteria are met."	
_____ Person Completing Form (print name)	_____ Signature

**Unsigned bids shall be rejected by the Agency Clerk of the Northwest Florida Water Management District.**

**PART 7**  
**DRAFT AGREEMENT**



Draft Agreement for Contractual Services for  
**ITB 21B-005 Monitor Well Construction and Aquifer Testing in Gulf County, Florida**  
**Between**  
**Northwest Florida Water Management District**  
**and**  
**(Well Contractor)**

This Agreement (the “Agreement”) is by and between the Northwest Florida Water Management District (hereinafter, the DISTRICT) and Well Contractor (hereinafter, the CONTRACTOR). The DISTRICT and the CONTRACTOR hereby agree as follows:

**Section 1 – Scope of Services**

- A. The CONTRACTOR shall perform and render all services as an independent CONTRACTOR of the DISTRICT and not as an agent, representative, or employee of the DISTRICT. Services (the “Work”) shall be provided in accordance with the CONTRACTOR’s bid response submitted under Invitation to Bid (ITB) 21B-005 entitled “**Monitor Well Construction and Aquifer Testing in Gulf County, Florida,**” incorporated herein by reference.
- B. The contract documents (“Contract Documents”) which make up this Agreement consist of: (i) this Agreement document; (ii) Invitation to Bid (ITB) 21B-005; (iii) Contractor’s bid response; (iv) technical specifications; (v) all addenda issued prior to the execution of this Agreement; (vi) the response submitted by the CONTRACTOR; and (vii) all modifications issued subsequent thereto. The Contract Documents are part of this Agreement as if attached to this Agreement, whether or not they are actually attached.
- C. Prior to the CONTRACTOR’S commencement of Work, a performance bond will be required for the Work in accordance with the specifications contained in SECTION 5.
- D. Prior to the CONTRACTOR's commencement of Work, the DISTRICT shall provide and transmit to the CONTRACTOR an approved Notice to Proceed. The CONTRACTOR shall commence work within 14 days of issuance of a Notice to Proceed by the DISTRICT.
- E. All Work shall be performed in accordance with the specifications and requirements contained in the Agreement.

**Section 2 – Responsibilities of Contractor**

- A. The CONTRACTOR is responsible for the timely completion, professional quality, and technical accuracy of all Work provided to the DISTRICT under the terms of this Agreement. The CONTRACTOR shall, without additional compensation, correct or revise any errors, omissions or other deficiencies identified by the DISTRICT in reports, drawings, and in conjunction with all Work provided for under this Agreement.
- B. The CONTRACTOR shall be, and shall remain, liable in accordance with applicable law for all damages to the DISTRICT caused by the CONTRACTOR’s negligent performance of any Work furnished under this Agreement.

- C. The CONTRACTOR's obligations under this Section are in addition to the CONTRACTOR's other expressed or implied assurances under this Agreement or state law and in no way diminish any other rights that the DISTRICT may have against the CONTRACTOR for deficiencies in Work.
- D. The CONTRACTOR shall indemnify and hold harmless the DISTRICT, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.
- E. The CONTRACTOR warrants that they have not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR to solicit or secure this Agreement and that the CONTRACTOR has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the CONTRACTOR any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement.
- F. As provided under Section 216.347, Florida Statutes, expenditure of DISTRICT funds for purposes of lobbying, including of the Legislature, judicial branch, or any state agency, is prohibited.
- G. The CONTRACTOR certifies that it and any of its affiliates are not scrutinized companies as identified in Section 287.135, Florida Statutes, and are not engaged in a boycott of Israel. In addition, the CONTRACTOR agrees to observe the requirements of s. 287.135, F.S., for applicable sub-agreements entered into for the performance of Work under this Agreement. Pursuant to s. 287.135, F.S., the DISTRICT may immediately terminate this Agreement at its sole option if the CONTRACTOR is found to have submitted a false certification; or if the CONTRACTOR is placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of the Agreement. If this Agreement is for one million or more dollars, the CONTRACTOR certifies that it is also not on the Scrutinized Companies with Activities in Sudan List, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or engaged with business operations in Cuba or Syria as identified in s. 287.135, F.S. Pursuant to s. 287.135, Florida Statutes, the DISTRICT may immediately terminate this Agreement at its sole option if the CONTRACTOR is found to have submitted a false certification; or if the CONTRACTOR is placed on the Scrutinized Companies with Activities in Sudan List, or Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria during the term of this Agreement. As provided in s. 287.135(8), F.S., if federal law ceases to authorize these contracting prohibitions then they shall become inoperative.

### **Section 3 – Truth-In-Negotiations**

The CONTRACTOR certifies that wage rates and other factual unit costs supporting the compensation are accurate, complete, and current at the time of contracting. The original contract price and any additions thereto will be adjusted to exclude any significant sums by which the DISTRICT determines the contract price was increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs. All such contract adjustments must be made within one (1) year following the end of this Agreement.

#### Section 4 – Compensation

- A. Maximum compensation under this Agreement shall not exceed the availability of funds and current budget authorizations as approved by the DISTRICT Governing Board.
- B. The DISTRICT's performance and obligation to pay under this Agreement is contingent upon annual appropriation by the Florida Legislature and/or approval of the DISTRICT's annual budget.
- C. Payment for the Work will be subject to inspection and approval by the DISTRICT's Project Manager. The Project Manager, will determine, in his sole discretion, whether or not the CONTRACTOR has successfully completed the authorized Work as outlined in this Agreement. Payment will not be made until the DISTRICT receives written authorization to do so by the DISTRICT Project Manager.
- D. The CONTRACTOR may submit invoices no more frequently than monthly. A final invoice must be submitted within thirty (30) days after the expiration date of the Agreement to assure the availability of funding for final payment.
- E. The compensation amount (the "Compensation Amount") will be determined on the basis of the unit prices set forth in Exhibit 1: CONTRACTOR Bid for "**ITB 21B-005 Monitor Well Construction and Aquifer Testing in Gulf County, Florida,**" attached hereto and made a part hereof. Any subcontractor fees and direct expenses (ODCs) required for completion of the Work should have been included in the CONTRACTOR's unit bid price and will be the responsibility of the CONTRACTOR.
- F. Payment will be made upon inspection and approval of deliverables within thirty (30) days of receipt of an approved invoice, submitted in sufficient detail for a pre-audit and post-audit review. Each invoice submitted must be in detail sufficient for pre-audit and post-audit review. Invoices shall include the CONTRACTOR name and address, date, time period covered by the invoice, DISTRICT contract number, quantify of each unit being invoiced and the associated unit bid price for each item, total payment requested, amount previously invoiced, and a signed certification by the Project Manager that work invoiced has been completed.
- G. The CONTRACTOR agrees to participate in electronic funds transfer payments from the DISTRICT.
- H. An original invoice, including appropriate backup documentation, shall be submitted to both the DISTRICT's Project Manager at contact information included in Section 8.B, and the DISTRICT's Accounting Bureau, at the contact information listed below. An original invoice may be submitted either electronically or in hard copy.

Northwest Florida Water Management District  
81 Water Management Drive  
Havana, FL 32333  
[AccountsPayable@nwfwater.com](mailto:AccountsPayable@nwfwater.com)

## Section 5 – Performance Bond

Prior to commencing work, the CONTRACTOR shall provide a Performance Bond in an amount equal to one-hundred percent (100%) of the Compensation Amount, which shall be held by the DISTRICT to insure contract compliance and to pay any damages sustained by the DISTRICT due to the CONTRACTOR's negligence or breach of contract; provided, however, that such Performance Bond shall not relieve CONTRACTOR from its obligation to indemnify as provided in Section 2D. hereof. The Performance Bond shall be returned to the CONTRACTOR within thirty (30) days of successful completion of all terms and conditions of this Agreement.

## Section 6 – Time of Performance

- A. Time is of the essence for each and every aspect of this Agreement. Where additional time is allowed to complete the Work, the new time limit shall also be of the essence. All provisions of this Agreement that by their nature extend beyond the Agreement expiration date shall survive termination or expiration of this Agreement.
- B. This Agreement is effective on the date of execution and shall remain in effect through September 30, 2021.
- C. The CONTRACTOR shall proceed with the Work at such rate of progress to insure full completion within the Project Schedule. It is expressly understood and agreed, by and between the CONTRACTOR and the DISTRICT, that the contract time for the completion of the Work is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work.
- B. If the CONTRACTOR shall fail to complete the Work within the Project Schedule, or extension of time granted by the DISTRICT, then the CONTRACTOR shall be in default after the time stipulated in this Agreement and may forfeit the performance bond required in Section 5.

## Section 7 – Force Majeure and Delays

- A. Force Majeure. The CONTRACTOR shall not be liable for failure to carry out the terms of this Agreement to the extent such failure is due to a force majeure event, except for failures that could have been reasonably foreseen and guarded against so as to avoid or reduce the adverse impact thereof. A force majeure event is hereby defined as the failure to carry out any of the terms of this Agreement due to any one of the following circumstances occurring after the date of this Agreement beyond the control of CONTRACTOR: (a) the operation and effect of rules, regulations, or orders promulgated by any commission, county, municipality, or governmental agency of the State of Florida or the United States, (b) a restraining order, injunction, or similar decree of any court of competent jurisdiction, (c) war, (d) flood, (e) earthquake, (f) fire, (g) severe wind storm, (h) acts of public disturbance, (i) quarantine restrictions, (j) epidemics, (k) strikes, (l) freight embargoes, or (m) sabotage. The times specified herein for performances include delays that can ordinarily be anticipated due to adverse weather conditions, which are not and shall not be deemed *force majeure* events. The DISTRICT is not obligated to grant an extension of time due to adverse weather conditions unless the District determines in its sole discretion that such conditions rise to the level of a force majeure event.

B. Delay. The CONTRACTOR shall not be compensated for delays caused by CONTRACTOR's inefficiency, rework made necessary by CONTRACTOR's error, failure to perform the Work as scheduled, or any other corrective or productivity measures made necessary by errors, omissions, or failures to properly perform the Work. Within ten (10) days after the onset of a delay, CONTRACTOR shall notify the DISTRICT in writing of the delay, which shall provide: (1) a detailed description of the delay and its probable duration, (2) the specified portion of the Work affected, and (3) an opinion as to the cause of the delay and liability (if any) for the delay. Notices provided more than ten days after the inception of the delay shall only be effective as to additional costs or delay incurred during the ten-day period preceding receipt of such notice. In the case of continuing cause delay for the same cause, only one notice of delay is necessary. **Failure to provide this notice waives any claim for extension of time or additional compensation resulting from such delay.** If the delay is due to the failure of another District CONTRACTOR to complete its work in a timely manner, changes ordered in the Work, a force majeure event, or any other cause which the DISTRICT, in its sole judgment and discretion, determines to justify the delay, then this Agreement may be extended as necessary to compensate for the delay. All time extensions shall be in the form of a written amendment signed by both parties.

**Section 8 – Approvals and Notices**

A. All notices and written communication between the parties shall be sent by electronic mail, U.S. Mail, a courier delivery service, or delivered in person addressed to the individuals listed below. Notices shall be considered delivered when reflected by an electronic mail read receipt, a courier service delivery receipt, other mail service delivery receipt, or when receipt is acknowledged by recipient.

B. The DISTRICT's Project Manager for this Agreement is identified below:

Tony Countryman, or successor	
Northwest Florida Water Management District	
81 Water Management Drive	
Havana, FL 32333-4712	
Telephone No.:	(850) 539-5999 x 327
Fax No.:	(850) 539-2777
E-mail Address:	Tony.Countryman@nwfwater.com

The CONTRACTOR's Project Manager for this Agreement is identified below:

Telephone No.:	
Fax No.:	
E-mail Address:	

C. No amendment to this Agreement shall be effective unless reduced to writing and executed by the parties hereto.

D. The DISTRICT and the CONTRACTOR may, by written order designated to be a Change Order, agree that additional Work shall be undertaken within the general scope of this Agreement.

- E. The DISTRICT shall, at its sole discretion, determine whether the Work has been satisfactorily completed.
- F. The CONTRACTOR agrees to assume responsibility for all claims, demands, liabilities, and suits of any nature to the extent resulting from any act or failure to act by the CONTRACTOR, its agents or employees to the extent permitted by Florida law.
- G. The DISTRICT may unilaterally cancel this Agreement for refusal by the CONTRACTOR to allow public access to all documents, papers, letters or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the CONTRACTOR in conjunction with this Agreement.

### **Section 9 – Insurance**

The CONTRACTOR shall maintain adequate insurance coverage at all times as follows: General Liability, with limits no less than \$1,000,000 per occurrence; \$1,000,000 per occurrence for personal injury; and \$1,000,000 for property damage; Automobile Liability, with combined single limit of not less than \$1,000,000; Workers Compensation and Employers Liability, with limits not less than \$1,000,000 for each accident for Bodily Injury by Accident, \$1,000,000 policy limit and \$1,000,000 each employee for Bodily Injury by Disease. Evidence of all such insurance satisfactory to the DISTRICT shall be furnished prior to beginning work, and all such insurance policies shall provide for ten (10) days' notice to the DISTRICT of cancellation or any material change in the terms of the insurance policies.

### **Section 10 – Subcontracts**

- A. The CONTRACTOR shall not subcontract, assign or transfer any Work without the prior written consent of the DISTRICT. Any subcontractors who may be employed by the CONTRACTOR and approved by the DISTRICT must also adhere to all provisions of this Agreement. Subcontractors included in the CONTRACTOR's proposal for this Agreement are pre-approved for use under any Change Order or Purchase Order.
- B. When applicable the CONTRACTOR shall cause the names of subcontractor firms responsible for portions of the Work to appear on such Work.
- C. The CONTRACTOR agrees to notify the DISTRICT of all subcontracts no less than ten (10) days prior to the effective date of the subcontracts for the purpose of approval by the DISTRICT. The CONTRACTOR agrees to provide the DISTRICT with an executed copy of all subcontracts within ten (10) days after the effective date thereof.
- D. The CONTRACTOR agrees to be responsible for the fulfillment of all Work elements or arrangements as included in the subcontracts and agrees to be responsible for the payment of all monies due under any subcontract and hold the DISTRICT harmless from any liability or damages arising under or from any subcontract hereunder.

## **Section 11 – Termination of Agreement**

- A. The DISTRICT or its designated representatives will decide all questions, difficulties, and disputes of whatever nature which may arise under or by reason of this Agreement. The DISTRICT's decision upon all claims, questions and disputes shall be final, conclusive and binding upon the parties hereto. This Section 11 does not preclude any party from seeking relief by filing a petition for administrative hearing pursuant to Chapter 120, Florida Statutes.
- B. If the CONTRACTOR fails to fulfill its obligations in a timely and proper manner under this Agreement, or if the CONTRACTOR violates any of the covenants, agreements, or stipulations of this Agreement, the DISTRICT has the right to terminate this Agreement. This right to terminate will be exercised by giving written notice to the CONTRACTOR of such termination and specifying the reason and effective date thereof. Upon notice of intent to terminate this Agreement by the DISTRICT, the CONTRACTOR will have a contract resolution period not to exceed thirty (30) days to resolve deficiencies, disputes or other contract issues to the DISTRICT's satisfaction before the termination is final. During this resolution period the CONTRACTOR will not initiate any new tasks requiring additional compensation without written approval by the DISTRICT.
- C. The DISTRICT may at any time and for any reason terminate this Agreement at the DISTRICT's convenience. Upon receipt of such notice, the CONTRACTOR shall, unless the notice directs otherwise, immediately discontinue the Work and procurement for all materials and services in connection with the performance of this Agreement.
- D. The CONTRACTOR shall not be relieved of liability to the DISTRICT for damages sustained by the DISTRICT because of any breach of this Agreement, without prejudice to any other rights the DISTRICT may have as a result of such breach, including but not limited to the right to consequential or incidental damages.
- E. In the event the DISTRICT terminates this Agreement, other than for breach by the CONTRACTOR, the CONTRACTOR shall be compensated for Work completed as of the date of termination and for any irrevocable commitments for procurement for materials or services made by the CONTRACTOR as of the date of termination. The CONTRACTOR agrees that it will make no such commitments prior to receiving written approval from the DISTRICT. The CONTRACTOR also agrees to provide all Work products completed or in progress at the date of termination.

## **Section 12 – Ownership of Documents and Deliverables**

- A. All reports produced and other data gathered by the CONTRACTOR for the purpose of this Agreement shall become the property of the DISTRICT without restriction or limitation upon their use and shall be made available by the CONTRACTOR at any time upon request of the DISTRICT.
- B. All deliverables, including Work not accepted by the DISTRICT, are DISTRICT property when CONTRACTOR has received compensation therefor, in whole or in part. For any Work subject to patent or copyright, such Work is a "work made for hire" as defined by the patent and copyright laws of the United States. CONTRACTOR shall not make any representation otherwise and, upon request, shall sign any documents so affirming. Any DISTRICT source documents or other DISTRICT or non-DISTRICT documents, specifications, materials, reports, or accompanying data developed, secured, or used in the performance of the Work, excluding proprietary materials, as outlined in the Statement of Work, are DISTRICT property and shall be safeguarded and provided to the DISTRICT upon request. This obligation shall survive termination or expiration of this Agreement.

- C. The DISTRICT shall have the unrestricted right to use and disseminate all of the above-referenced documents without payment of further compensation to CONTRACTOR, provided that any future use for other than the purpose intended by this Agreement shall be at the DISTRICT's sole risk and without liability to CONTRACTOR. CONTRACTOR shall include language in all subcontracts clearly indicating that ownership and copyright to all materials produced pursuant to this Agreement remains with the DISTRICT, as provided herein. All original sketches, tracings, drawings, computation details, calculations, field books, and plans that result from the Work shall become the sole property of the DISTRICT. Consultant shall submit all such work products to the DISTRICT, if requested. CONTRACTOR may retain copies of all work products created pursuant to this Agreement.

### **Section 13 – Release of Information**

The CONTRACTOR agrees not to divulge any information obtained in connection with the performance of services under this Agreement to anyone other than the DISTRICT unless authorized in writing by the DISTRICT. All drawings, specifications, diagrams, reports, documents, etc., furnished by the CONTRACTOR pursuant to this Agreement shall become the sole property of the DISTRICT, and may be subject to disclosure by the DISTRICT under Chapter 119, Florida Statutes.

### **Section 14 – Choice of Law/Forum**

The parties hereby agree that any and all actions or disputes arising out of this Agreement shall be governed by the Laws of the State of Florida; and any such actions shall be brought in the state or federal courts sitting in Leon County, Florida.

### **Section 15 – Public Entity Crime/Discriminatory Vendor List**

- A. A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list. Questions regarding the convicted vendor list may be directed to the Florida Department of Management Services, State Purchasing Division, at (850) 488-8440 or send email to [purchasingcustomerservice@dms.myflorida.com](mailto:purchasingcustomerservice@dms.myflorida.com).
- B. An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity. The Florida Department of Management Services is responsible for maintaining the discriminatory vendor list and posts the list on its website. Questions regarding the discriminatory



vendor list may be directed to the Florida Department of Management Services, State Purchasing Division, at (850) 488-8440 or send email to [purchasingcustomerservice@dms.myflorida.com](mailto:purchasingcustomerservice@dms.myflorida.com).

### **Section 16 - Agency Inspectors General**

The CONTRACTOR understands and shall comply with section 20.055(5), F.S., which states: It is the duty of every state officer, employee, agency, special district, board, commission, contractor and subcontractor to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing pursuant to this section.

### **Section 17 – Access to Records for the Purpose of Audits**

- A. The CONTRACTOR shall maintain books, records and documents directly pertinent to performance under this Agreement in accordance with generally accepted accounting principles consistently applied. The DISTRICT, the State, inspector general or their authorized representatives shall have access to such records for audit purposes during the term of this Agreement and for five (5) years following Agreement completion. In the event any work is subcontracted, the CONTRACTOR shall similarly require each subcontractor to maintain and allow access to such records for audit purposes. The CONTRACTOR shall also cooperate with an inspector general in any investigation, audit, inspection, review or hearing, pursuant to Section 20.055(5), Florida Statutes.
- B. CONTRACTOR shall comply with Florida Public Records law under Chapter 119, F.S. Records made or received in conjunction with this Agreement are public records under Florida law, as defined in Section 119.011(12), F.S. CONTRACTOR shall keep and maintain public records required by the DISTRICT to perform the services under this Agreement.
- C. This Agreement may be unilaterally canceled by the DISTRICT for unlawful refusal by the CONTRACTOR to allow public access to all documents, papers, letters, or other material made or received by the CONTRACTOR in conjunction with this Agreement and subject to disclosure under Chapter 119, Florida Statutes, and Section 24(a), Article I, Florida Constitution.
- D. If the CONTRACTOR meets the definition of “Contractor” found in Section 119.0701(1)(a), F.S., [ i.e. an individual, partnership, corporation, or business entity that enters into a contract for services with a public agency and is acting on behalf of the public agency], then the following requirements apply:
  - i. A request to inspect or copy public records relating to this Agreement for services must be made directly to the DISTRICT. If this DISTRICT does not possess the requested records, the CONTRACTOR must provide the records to the DISTRICT or allow the records to be inspected or copied within a reasonable time. If the CONTRACTOR fails to provide the public records to the DISTRICT within a reasonable time, the CONTRACTOR may be subject to penalties under s. 119, F.S. or as otherwise provided by law.
  - ii. Upon request from the DISTRICT’s custodian of public records, the CONTRACTOR shall provide the DISTRICT with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 199, F.S., or as otherwise provided by law. All records that are stored electronically must be provided to the DISTRICT in a format that is compatible with current information systems.

- iii. The CONTRACTOR shall identify and ensure that all public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the CONTRACTOR does not transfer the records to the DISTRICT.
- iv. Upon completion of the Agreement, the CONTRACTOR shall transfer, at no cost to the DISTRICT, all public records in possession of CONTRACTOR or keep and maintain public records required by the DISTRICT to perform the services under this Agreement. If the CONTRACTOR transfers all public records to the DISTRICT, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public record disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the Agreement, the CONTRACTOR shall meet all applicable requirements for retaining public records.

**E. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, OR TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE DISTRICT'S CUSTODIAN OF PUBLIC RECORDS by telephone at (850) 539-5999; by email at [ombudsman@nfwwater.com](mailto:ombudsman@nfwwater.com); or by mail at Northwest Florida Water Management District, 81 Water Management Drive, Havana, FL 32333.**

#### **Section 18 – Financial Consequences and Remedies**

- A. In accordance with 287.058(1)(h), F.S., the DISTRICT will apply financial consequences for nonperformance. Failure to complete well construction and provide required deliverables within the time identified in the Project Schedule will result in the following financial consequences:
  - 1. If Contractor fails to complete the Work hereunder within the agreement schedule or extension of the agreement schedule granted by the District in its sole discretion, but does complete the Work within *thirty (30)* days after the scheduled completion date, the agreement amount shall be reduced by *two percent (2%)*.
  - 2. If Contractor fails to complete the Work hereunder within the agreement schedule or extension of the agreement schedule granted by the District in its sole discretion, but does complete the Work after *thirty (30)* days but within *sixty (60)* days after the scheduled completion date, the agreement amount shall be reduced by *five percent (5%)*.
- B. If the Contractor shall fail to complete the work hereunder within *sixty (60)* days after the scheduled completion date per the agreement schedule, or extension of the agreement schedule granted by the District in its sole discretion, then the Contractor shall be in default and shall forfeit the performance bond required in SECTION 5.
- C. Cumulative Remedies. The rights and remedies of the DISTRICT in this Section 18 are in addition to any other rights and remedies provided by law or under this Agreement.

**Section 19 – Execution of Counterparts**

This Agreement may be executed in two or more counterparts, each of which together shall be deemed an original, but all of which together shall constitute one and the same instrument. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

**Section 20 – Agreement as Including Entire Agreement**

This Agreement, including the Contract Documents, hereby incorporated by reference, makes up the entire contract of the parties. There are no provisions, terms, conditions or obligations other than those contained herein and therein, and this Agreement shall supersede all previous communication, representation, or agreements, either verbal or written between the parties hereto.

IN WITNESS THEREOF, the DISTRICT and the CONTRACTOR have executed this Agreement as of the last date below written.

Northwest Florida Water Management District  
Havana, Florida

Well Contractor

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

Brett J. Cyphers  
Executive Director

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

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**DRAFT AGREEMENT EXHIBIT 1**  
**Bid Sheet and Bidder Acknowledgement**

DRAFT

**ATTACHMENT A**

**TECHNICAL SPECIFICATIONS  
FOR  
WELL CONSTRUCTION AND AQUIFER TESTING IN GULF COUNTY, FLORIDA**



**Each Bidder is responsible to read and understand the contents of the  
Technical Specifications prior to completing the Bid Submittal.**

# Technical Specifications for Well Construction and Aquifer Testing in Gulf County, Florida

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## SECTION 1000 SUMMARY OF WORK

### A. GENERAL PROJECT DESCRIPTION

The Northwest Florida Water Management District (DISTRICT) is seeking bids from qualified water well drilling CONTRACTOR(s) for the construction of one (1) Floridan aquifer monitor well, three (3) intermediate aquifer wells (one test production well and two monitor wells) and one (1) surficial aquifer monitor well. The wells will be constructed at a site in south Gulf County, just north of Port St. Joe (Figure 1). Current plans are to utilize the former Gulf County Park located at 6697 Gardenia Street in White City, Florida. **It is anticipated that the proposed work will start no later than October 2021 and take approximately three (3) months to complete.**

A specific capacity test lasting up to 24-hours will be performed on the intermediate aquifer test production well. In addition, a three-to-seven-day multi-well aquifer performance test (APT) is planned at the study site. Work must be scheduled to accomplish both drilling and APT activities in a single mobilization.

Anticipated casing and well depths are provided in these Technical Specifications. Actual casing and open-hole or screen-interval depths will vary subject to the specific subsurface conditions encountered. The DISTRICT plans to work with a separately contracted GEOLOGIST to assist with providing well construction oversight. The GEOLOGIST, in consultation with the DISTRICT, will provide the CONTRACTOR with depths for setting casing and open-hole/screened interval completion after evaluating hydrogeologic data collected during drilling and prior to those construction stages.

Work may be authorized through a task order based on these Technical Specifications. It should be noted that based on information obtained during construction and testing of the above described wells and pending budgetary constraints, the DISTRICT may opt not to perform any portion of the described work.

A virtual pre-bid meeting will be held to address questions from potential bidders and discuss details of the Project. Participation in the virtual, pre-bid meeting is not required, but is highly recommended. Prospective bidders are encouraged to visit the site to evaluate site conditions prior to submitting a bid. A site map is provided in this Bid Package.

### B. WELL SITING AND ACCESS

The DISTRICT will obtain all approvals from the property owner to access and conduct work on the site. This includes any written agreements, formal or otherwise, necessary to install the wells and perform subsequent testing activities. The DISTRICT shall designate work areas and unless directed by the DISTRICT, the CONTRACTOR shall restrict all proposed activities to the designated areas. The specific location of the wells on the site

will be determined by the DISTRICT at the time of construction. A site location map and figure of proposed well locations are provided as Figures 1 and 2.

**C. COORDINATION WITH OTHER CONTRACTORS**

It is not anticipated, but the DISTRICT or property owner may have other contractors on-site when the CONTRACTOR begins work. The DISTRICT shall coordinate the CONTRACTOR's activities with the property owner to prevent the interruption of other contracted work at the site and to allow the orderly and timely completion of all DISTRICT-directed work as specified.

**D. SUBCONTRACTORS**

The CONTRACTOR shall not employ any SUBCONTRACTOR(s) against whom the DISTRICT may have reasonable objection. The name, address and documentation of experience of all proposed SUBCONTRACTOR(s) that may be used on the Project shall be submitted by the CONTRACTOR with the Bid on the Bidder Information Form (Part 6 of ITB package).

**E. UTILITY LOCATION**

The CONTRACTOR shall have buried utilities in the work areas located and marked prior to commencing construction. If necessary, the CONTRACTOR shall cover the cost to locate any onsite private utilities. It is the CONTRACTOR's responsibility to field-verify that work area setback distances from existing utility services are adequate to complete the proposed work, as specified. All damages to existing utility services are the responsibility of the CONTRACTOR. The CONTRACTOR will notify the GEOLOGIST and DISTRICT immediately upon damaging or noticing damage to a utility service. The CONTRACTOR shall be responsible for the incurred cost of repair to any service damaged and hold harmless the DISTRICT.

**F. TEMPORARY FACILITIES**

The CONTRACTOR shall furnish, permit where applicable, and maintain all necessary temporary facilities required to complete the proposed work at no expense to the DISTRICT. This shall include, but not be limited to temporary barricade/fencing, temporary water supply, temporary electrical service, and temporary sanitary facilities.

**END OF SECTION**

**SECTION 1001**  
**DEFINITIONS AND ABBREVIATIONS**

**A. GENERAL**

The definitions and abbreviations used in the Technical Specifications are as follows:

ANSI shall mean American National Standards Institute

APT shall mean multi-well Aquifer Performance Test

ASTM shall mean American Society of Testing and Materials

AWWA shall mean American Water Works Association

BLS shall mean below land surface

CONTRACTOR shall mean the selected responsive bidder or their subcontractor

DISTRICT shall mean the Northwest Florida Water Management District

FAS shall mean the Floridan Aquifer System

FDEP shall mean the Florida Department of Environmental Protection

GEOLOGIST shall mean the on-site consultant to the District

IAS shall mean the Intermediate Aquifer System

NPDES shall mean National Pollution Discharge Elimination System

NSF shall mean National Sanitation Foundation

PVC shall mean polyvinyl chloride

SAS shall mean Surficial Aquifer System

**END OF SECTION**

**SECTION 1002  
PERMITS AND FEES**

**A. GENERAL**

The CONTRACTOR shall procure all permits, certificates, and licenses required by law for the execution of the proposed work, except for easements and licenses from the property owner for site access, and shall comply with all applicable federal, state, and local regulations and ordinances.

The CONTRACTOR shall schedule all inspections and obtain all written approvals of the agencies required by the permits and licenses.

The DISTRICT and GEOLOGIST shall be furnished copies of each permit obtained by the CONTRACTOR prior to the CONTRACTOR commencing permitted work.

**B. PERMITS BY CONTRACTOR**

1. NPDES General Permit:

- a. In the event that discharges to surface waters covered under the National Pollution Discharge Elimination System (NPDES) occur during the Project, the CONTRACTOR shall be responsible for obtaining and complying with requirements of the NPDES Generic Permit for Florida (FDEP Guidance Document February 14, 2000, or superseding documents) and performing any required discharge water quality monitoring. All documentation related to the filing, and monitoring of an NPDES permit submitted to the FDEP shall be provided to the GEOLOGIST and DISTRICT in advance of the said submittals.
  - b. The CONTRACTOR shall provide a method of particulate removal or other necessary treatment processes to ensure that the discharge water is free of floating solids, visible foam, turbidity, or visible oil in such amounts as to form nuisances on surface water and comply with all other environmental regulations. Particulate removal may require the use of several settling tanks and other solids control equipment to meet NPDES permit requirement.
2. The CONTRACTOR shall obtain and pay for all other required permits and licenses. The CONTRACTOR shall provide copies of these permits to the DISTRICT and GEOLOGIST prior to start of the permitted work and shall comply with all conditions contained in the permits at no extra cost to the DISTRICT.

**END OF SECTION**

## SECTION 1003 WORK SCHEDULES

### A. CONSTRUCTION SCHEDULE

The CONTRACTOR shall submit a detailed construction schedule and maintain an up-to-date schedule through Project completion. The schedule shall include the proposed mobilization date, drilling start date, estimated Project completion date, and other significant construction and testing milestones for each well.

Monthly, at a minimum, the CONTRACTOR shall update the Project schedule and provide an electronic copy to the GEOLOGIST and DISTRICT. If the work falls behind schedule, the CONTRACTOR shall take necessary action to get the work back on schedule and complete the Project according to deadlines specified in the scope of work. Financial consequences shall be assessed for failure to complete the Project on time.

### B. WORKING HOURS

The CONTRACTOR shall be aware of and perform work on site only within the designated official working hours as established by local ordinance, unless a special exception or permit is obtained by the CONTRACTOR. The DISTRICT may establish a schedule of working hours based on site-specific needs. Requests for extended work hours must be approved by the DISTRICT and the GEOLOGIST. The work site is located in an existing residential neighborhood and normal work is expected to occur between the hours of 7:00 AM and 7:00 PM, excluding the extended pumping tests.

### C. STANDBY TIME

The DISTRICT may order the CONTRACTOR to stop operations so that extra work not included in the Technical Specifications, such as previously unspecified testing and data collection, can be performed. The DISTRICT or GEOLOGIST shall advise the CONTRACTOR when extra work is requested and will schedule the request so that it causes a minimum of delay.

The CONTRACTOR shall be reimbursed for approved standby time at the hourly rates listed in the **Bid Sheet and Bidder Acknowledgement Form**. No payment for standby time shall be made unless advance approval is granted by the DISTRICT.

### D. EXTRA WORK

The CONTRACTOR shall be reimbursed for approved extra work required by the DISTRICT at the hourly and unit rates listed in the **Bid Sheet and Bidder Acknowledgement Form**. Extra work includes on-site, non-drilling related work not included in the Technical Specifications. No payment for extra work shall be made unless advance written approval is granted by the DISTRICT.

**E. CONTRACT TIMES**

Adherence to contract times as specified in Section 1003 – A, “Construction Schedule” is essential to keep the overall Project on schedule. The CONTRACTOR shall meet deadlines specified in the Construction Schedule of the individual task orders. Financial consequences shall be assessed as stated in the scope of work for failure to complete tasks on time.

The CONTRACTOR may use more than one drilling rig on portions of, or on the entire Project. The actual number of rigs and crews planned for use during each phase of the Project shall be clearly identified in the Construction Schedule submitted by the CONTRACTOR as requested in Section 1003 – A of this ITB. The CONTRACTOR shall obtain written approval from the DISTRICT and provide at least ten (10) days advance notice to the DISTRICT and GEOLOGIST prior to adding to the number of drill rigs operating in excess of those identified in the schedule.

**END OF SECTION**

## **SECTION 1004 REPORTS**

### **A. CONTRACTOR'S DAILY LOG**

The CONTRACTOR shall maintain a detailed daily log of his operations on the drilling rig during the construction of all wells. One (1) copy of the day's log shall be submitted to the GEOLOGIST at the end of each workday, or if not present, on the first succeeding day that the DISTRICT or GEOLOGIST is on site. Each log report shall be signed by an authorized representative of the CONTRACTOR and the GEOLOGIST.

The daily log shall include, but not be limited to, the following information:

1. A listing of all pay items including any authorized extra work or standby time completed by the CONTRACTOR during the day,
2. The reference point for all depth measurements (e.g. land surface, top of casing),
3. The depth at which formation changes occur,
4. Identification of the material of which each stratum is composed,
5. Depth interval from which each formation sample is taken,
6. The depth interval from which each water sample or water level measurement is taken by the CONTRACTOR,
7. The new bit size and depth at which borehole diameters change,
8. The depth and interval of each cavity or lost circulation zone encountered during drilling, and
9. Other pertinent data requested by the DISTRICT or the GEOLOGIST.

### **B. AS-BUILT WELL SCHEMATIC**

Upon completion of each well, the CONTRACTOR shall submit to the DISTRICT an as-built well schematic that includes the following:

1. The well name and site location,
2. The total depths and nominal diameters of the boreholes drilled,
3. The total depth and nominal diameter of the open hole interval, if applicable,
4. The total depths, nominal diameters, and types of all surface and primary well casings installed,
5. The total depth, nominal diameter, slot-size and type of all well screen installed, if applicable,
6. The intervals and type of all cement grout, filter-pack, hole-plug, or backfill material installed in the borehole annulus, and

7. A description of how the well was completed at land surface (e.g. stickup w/ well protector, flush-mount, bollards, etc.).

All depth intervals shall be referenced to land surface. The CONTRACTOR shall also include a completed copy of State of Florida Permit Application to Construct, Repair, Modify or Abandon a Well (DEP Form 62-532.900(1)), or most recent form for each well, and a completed State of Florida Well Completion Report (DEP Form 62-532.900(2)) for each of the wells.

**END OF SECTION**



**SECTION 1005  
MATERIAL, EQUIPMENT AND WORKMANSHIP**

**A. GENERAL**

The CONTRACTOR shall be responsible for all labor, materials, transportation, tools, supplies, equipment, and appurtenances necessary to complete the Project in accordance with the Technical Specifications. All materials utilized shall be approved for use in potable water systems and shall be in general accordance with the latest revisions of the American Water Works Association for Water Wells (AWWA A100-15) and the National Water Well Association Standards as they apply to the particular needs or conditions encountered in the Project.

**If the CONTRACTOR determines that, based on their knowledge, items necessary for completion of their portion of the Project have been overlooked; the CONTRACTOR shall identify and address these issues during the bidding process.**

**B. CERTIFICATION OF CHEMICALS**

All chemicals used that will come into contact with proposed test production and monitor wells shall conform to ANSI/NSF Standard 60-1998, or latest revision.

**C. REMEDIAL WORK**

If remedial work proves to be necessary to make a well acceptable and come within applicable regulations and/or the Technical Specifications because of mechanical problems, loss of tools in the hole, defective material, or for any other cause, the CONTRACTOR shall propose a method of correcting the problem, in writing. Suggested methods shall be approved by the GEOLOGIST and DISTRICT before remedial work proceeds. Such work shall be performed at no additional cost to the DISTRICT and shall not extend the length of the Construction Schedule. The CONTRACTOR is notified that all Technical Specifications shall be met, including hole straightness and setting of casings to the depths designated by the GEOLOGIST.

**D. ABANDONMENT OF WELL(S) BY CONTRACTOR**

Any hole in which the CONTRACTOR voluntarily stops work and/or fails to complete in a satisfactory manner in accordance with applicable regulations and/or the Technical Specifications (including approved changes), shall be considered as abandoned by the CONTRACTOR. If the GEOLOGIST declares the hole abandoned by the CONTRACTOR, no payment shall be made for the abandoned hole.

All holes declared abandoned as described above shall be properly plugged and sealed by the CONTRACTOR at his own expense in accordance with federal, state, and local regulations. These holes shall be replaced by the CONTRACTOR at no cost to the DISTRICT. The CONTRACTOR shall submit his plan of action for abandonment and

plugging in writing to the GEOLOGIST and DISTRICT for review and approval. Casing strings may be removed only with the permission and approval of the DISTRICT. If requested by the DISTRICT, the CONTRACTOR shall properly plug and abandon wells not to be used for long-term monitoring.

**E. GUARANTEE**

The CONTRACTOR guarantees that the work and services to be performed under the Contract and all workmanship, materials, and equipment performed, furnished, used, or installed for the Project shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Technical Specifications; that the strength of all parts of all manufactured equipment shall be adequate and as specified; and that performance test requirements of the Technical Specifications shall be fulfilled, as directed by the DISTRICT. The CONTRACTOR shall repair, correct, or replace all damage to the Work resulting from failures covered by the guarantee. The guarantee shall remain in effect for one (1) year from the date of final acceptance by the District.

**END OF SECTION**

**SECTION 1006  
PROTECTION OF PROPERTY RIGHTS**

**A. GENERAL**

1. The CONTRACTOR shall take special precautions to reduce to a minimum the nuisances and damage to property. Any damage to public or private property shall be immediately repaired or paid for by the CONTRACTOR at no expense to the DISTRICT.
2. Equipment, tools, and materials shall be located in places where they will produce a minimum of nuisance.
3. Appropriate construction area warning signs required by applicable rules and ordinances shall be posted at the work site.

**B. PUBLIC NUISANCE**

1. The CONTRACTOR shall not create a public nuisance including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, excessive noise, or odor.
2. If required by the DISTRICT or GEOLOGIST, the CONTRACTOR shall provide and maintain on site a hand-held decibel meter for recording noise levels. Continuous noise levels from the drilling equipment shall not exceed 85 dBA at 50 feet distance from drilling equipment at any time. Sound levels in excess of these values are sufficient cause to have the work halted until equipment can be quieted to these levels.
3. No extra charge or extension of the construction schedule shall be approved for time lost due to work stoppage resulting from the creation of a public nuisance.

**END OF SECTION**

**SECTION 1007  
WELL SPECIFICATIONS**

This Section describes the various components of the construction and testing and is subdivided into the following main components:

- Part 1 – Well Construction Sequence
- Part 2 – Conditions and Hazards
- Part 3 – Mobilization, Site Preparation, and Demobilization
- Part 4 – Drilling Requirements
- Part 5 – Data Acquisition
- Part 6 – Material Specifications
- Part 7 – Well Completion

It is the intent of these specifications that the intermediate aquifer test production well may be utilized as a Public Water Supply (PWS) well in the future and will be constructed accordingly.

**PART 1 - WELL CONSTRUCTION SEQUENCE**

The anticipated well casing and open-hole/screen depths listed in the following well construction sequence are approximate. Actual depths may vary depending on the specific subsurface conditions encountered during well construction. The CONTRACTOR should also be aware that the well testing procedures described below may be changed in order of performance, or deleted, and additional work may be added at the discretion of the DISTRICT. In summary, the wells to be constructed as part of this Project are anticipated to include the following:

<b>Well ID</b>	<b>Well Type</b>	<b>Aquifer</b>	<b>Diameter (in)</b>	<b>Cased Depth (ft)</b>	<b>Total Depth (ft)</b>
FAS-M1	APT Monitor Well	FAS	6	340	650
IAS-1	Test Production Well	IAS	10	120	300
IAS-M1	APT Monitor Well	IAS	4	120	300
IAS-M2	APT Monitor Well	IAS	4	120	300
SAS-M1	Surficial Monitoring Well	SAS	4	60	100

The construction sequence will be determined by the DISTRICT and GEOLOGIST so that hydrogeologic data can be obtained to help determine casing and open-hole depths for the wells to be drilled.

Performance of all Items in this Bid Package by the CONTRACTOR at the request of the DISTRICT shall not be considered a cause for extending the Construction Schedule. Unless otherwise directed by the DISTRICT, the sequence of site activities will proceed as described below.

**A. MOBILIZATION AND SITE PREPARTION**

Upon issuance of Notice to Proceed by the DISTRICT, the CONTRACTOR shall obtain required permits, potable water source, and utility clearance. CONTRACTOR shall mobilize to the site, set-up equipment and prepare the site for well drilling and aquifer testing as specified herein.

**B. FLORIDAN AQUIFER MONITOR WELL (FAS-M1)**

The 6-inch diameter FAS monitor well shall be constructed using one of the approved drilling methods described in Section 1007-4.C, "Drilling Methods."

1. Install 12-inch diameter, SCH 80 PVC surface casing from land surface to approximately 110 feet bls. Allow 12-hour minimum grout set time.
2. Drill 11 7/8-inch diameter borehole from base of surface casing to approximately 340 feet bls.
3. Run standard suite of geophysical logs per Section 1007-5.B, "Geophysical Logging."
4. Install and centralize approximately 340 feet of 6-inch diameter, primary SCH 40 PVC casing. Grout primary casing in place. Allow 12-hour minimum grout set time.
5. Drill-out cement plug using clear water circulation. CONTRACTOR shall ensure that adequate potable water or other approved water supply is introduced to the well until sufficient formation circulation has been established. Drill a 5 7/8-inch diameter open hole from the base of the primary casing to approximately 500 feet bls. GEOLOGIST, in consultation with the DISTRICT, will determine final construction specification of the well.
6. This well will then be utilized for exploratory drilling and water quality sampling to estimate the vertical position of the saltwater interface. Drilling will be performed using direct-air or reverse-air methods for intervals of approximately 20 feet in depth (length of drill rod estimated at 20 feet) with a borehole size of 5 7/8-inch. At the completion of each 20-foot drilling interval, the borehole cuttings will be cleaned out for approximately 10 minutes. The drilling configuration will then be changed to reverse air if this method was not used during construction (This will allow for the drill rod to act like a drop pipe so that a groundwater sample can be collected from the zone at the base of the drill rod (bottom of the drilled hole)). Water will then be pumped for approximately 10 more minutes prior to collecting a water sample for analysis of chloride, sodium, and TDS by the GEOLOGIST. This method of drilling will be continued at 20-foot intervals until the saltwater interface is encountered (or a maximum depth of 920 feet below land surface). On-site analysis will be made for specific conductivity and chloride changes in order to determine the approximate location of the saltwater interface and ascertain at what depth to terminate drilling.

7. Upon completion of drilling the saltwater interface interval, run standard suite of geophysical logs plus fluid resistivity logs per Section 1007-5.B, "Geophysical Logging."
8. After completion of geophysical logging, the well will be backfilled with neat cement grout to the production depth (~ 650 ft bls). Allow 8-hour minimum grout set time and tag top of cement plug. Add cement, as necessary to get to target depth.
9. Clean out the open hole using direct-air methods to final open-hole depth (estimated maximum depth 650 feet bls) and develop the well by direct-air method from bottom of casing to bottom of hole for up to 6 hours.
10. If directed by the DISTRICT or GEOLOGIST, perform high-capacity pumping development for up to 4 hours.
11. Provide wellhead seal.

**C. INTERMEDIATE AQUIFER TEST PRODUCTION WELL (IAS-1)**

The 10-inch diameter, IAS Test Production Well shall be constructed using one of the approved drilling methods described in Section 1007-Part 4.C, "Drilling Methods." The borehole for the well shall be constructed in a manner suitable for the size and purpose of the well installation.

1. Install 18-inch diameter, black steel pit casing from land surface to approximately 120 feet bls.
2. Drill 17 1/2-inch diameter borehole from base of pit casing to approximately 300 feet bls.
3. Install approximately 300 feet of 10-inch diameter steel casing and screen as described in Section 1007-6.C. Gravel pack well screen and seal gravel pack with bentonite/fine sand. Well shall be fully grouted with neat cement from the top of filter seal material to land surface. CONTRACTOR shall provide for a grout set time of at least seventy-two (72) hours.
4. Develop well by surge block/pumping method described in Section 1007-Part 4.H "Well Development".
5. Perform 24-hour specific capacity test as coordinated with the GEOLOGIST and as described in Section 1007 - 5.D, "Specific Capacity Test."
6. Provide wellhead seal.

**D. INTERMEDIATE AQUIFER MONITOR WELLS (IAS-M1 and IAS-M2)**

The 4-inch diameter, IAS monitor wells shall be constructed using one of the approved drilling methods described in Section 1007-Part 4.C, "Drilling Methods." The borehole for the well shall be constructed in a manner suitable for the size and purpose of the well

installation. The following describes the general sequence to construct the first monitor well and will be repeated for the second.

1. Install 10-inch diameter, SCH 80 PVC surface casing from land surface to approximately 120 feet bls.
2. Drill 9 7/8-inch diameter borehole from base of pit casing to approximately 300 feet bls.
3. Install approximately 300 feet of 4-inch diameter, SCH 40 PVC casing and screen. Coarse sand pack well screen and seal sand pack with bentonite/fine sand. Well shall be fully grouted with neat cement from the top of filter seal material to land surface. CONTRACTOR shall provide for a grout set time of at least twelve (12) hours.
4. Develop well by surge block method described in Section 1007–Part 4.H “Well Development.”
5. Provide wellhead seal.

**E. SURFICIAL AQUIFER MONITOR WELL (SAS-M1)**

The 4-inch diameter, SAS monitor well shall be constructed using one of the approved drilling methods described in Section 1007-Part 4.C, “Drilling Methods.” The borehole for the well shall be constructed in a manner suitable for the size and purpose of the well installation.

1. Drill 9 7/8-inch diameter borehole from land surface to approximately 100 feet bls.
2. Install approximately 100 feet of 4-inch diameter, SCH 40 PVC casing and screen. Coarse sand pack well screen and seal sand pack with bentonite/fine sand. Well shall be fully grouted with neat cement from the top of filter seal material to land surface. CONTRACTOR shall provide for a grout set time of at least twelve (12) hours.
3. Develop well by surge block method described in Section 1007–Part 4.H “Well Development.”
4. Provide wellhead seal.

**F. AQUIFER PERFORMANCE TEST, WELLHEAD COMPLETION, SITE RESTORATION, AND DEMOBILIZATION**

After all wells are completed as designed:

1. Perform aquifer performance test as coordinated with the GEOLOGIST and as described in Section 1007–Part 5.E. “Aquifer Performance Testing.”
2. Complete wellheads, as directed by the DISTRICT, in accordance with the Section 1007–Part 7.A, “Well Completion.” Item described as “Wellhead Completion” in respective well sections on **Bid Sheet** (Items B-11, C-6, D-5, and E-4).

3. Restore site and demobilize equipment, in accordance with Section 1007–Part 3.C.

**G. EXTRA WORK ITEMS (AS NEEDED)**

PORTLAND CEMENT INCLUDING PLACEMENT (Item G-1)

Additional Portland cement for various grouting work including the labor needed to place cement will be paid at unit cost per 94-lbs bag listed on the **Bid Sheet** based on the number of authorized units.

BENTONITE – QUICK GEL INCLUDING PLACEMENT (Item G-2)

Additional Bentonite Quick Gel including the labor needed to place sealing material will be paid at unit cost per 50-lbs bag listed on the **Bid Sheet** based on the number of authorized units.

SAND/GRAVEL PACK FILTER INCLUDING PLACEMENT (Item G-3)

Additional sand/gravel pack filter material including the labor needed to place sealing material will be paid at unit cost per 50-lbs bag listed on the **Bid Sheet** based on the number of authorized units.

EXTRA WORK BY DRILLING CREW WITH DRILLING EQUIPMENT (Item G-4)

Extra work authorized by the DISTRICT and performed by the drilling crew with drilling equipment will be paid for at the unit price listed on the **Bid Sheet** based on the amount of authorized time and materials used.

EXTRA WORK BY CREW WITH PUMP HOIST (Item G-5)

Extra work authorized by the DISTRICT and performed by the drilling crew with pump hoist will be paid for at the unit price listed on the **Bid Sheet** based on the amount of authorized time and materials used.

EXTRA WORK BY DRILLING OR OTHER CREW (Item G-6)

Extra work authorized by the DISTRICT and performed by the drilling crew will be paid for at the unit price listed on the **Bid Sheet** based on the amount of authorized time used.

STANDBY TIME WITH RIG AND DRILLING CREW ON SITE (Item G-7)

Standby time authorized by the DISTRICT and performed by the drilling crew and drilling equipment will be paid for at the unit price listed on the **Bid Sheet** based on the amount of authorized time used.

STANDBY TIME WITH RIG ON SITE AND CREW OFF SITE (Item G-8)

Standby time authorized by the DISTRICT and performed with drilling equipment on site and the drilling crew off site will be paid for at the unit price listed on the **Bid Sheet** based on the amount of authorized time used.



### EXTEND MULTI-WELL AQUIFER PERFORMANCE TEST (Item G-9)

Additional aquifer testing, beyond 72 hours, authorized by the DISTRICT. Time will be added in 24-hour increments up to 96 additional hours and performed as described in task E above. Payment will be calculated at the unit price listed on the **Bid Sheet** based on the authorized number of 24-hour increments that are added to the test.

### DRUM CONTAMINATED CUTTINGS AND FLUIDS (Item G-10)

Containment and drumming of contaminated cuttings and drilling fluids authorized by the DISTRICT will be paid for at the unit price listed on the **Bid Sheet** based on the number of drums.

### WATER QUALITY SAMPLING (Item G-11)

Contractor shall collect water samples from the water bearing strata when requested by the GEOLOGIST or DISTRICT. Contractor shall pay for a water analysis which shall be made by a private laboratory approved by the Florida Department of Health for alkalinity, dissolved iron, dissolved oxygen, pH, total sulfide, turbidity, Primary Drinking Water Standards Analysis (Organic and Inorganic), the General Water Analysis for Secondary Drinking Water Standards, TTHM and HAA5 formation potential (**Note that this is for formation potential which is not the same as identification of TTHM and HAA5. This analysis is critical and will result in additional sampling at the cost of the driller if this test is not properly analyzed**), hardness, analysis for Volatile Organic Contaminants, Synthetic Organic Contaminants, analysis for Gross Alpha, and Radium 228, all as required by F.A.C. 62-550. If the total of the Gross Alpha and Radium 228 is above 5 pCi/l, Radium 226 must also be analyzed. The preceding list of analytes constitutes one sample set.

## **PART 2 - CONDITIONS AND HAZARDS**

### **A. GENERAL**

The information provided regarding subsurface conditions and potential drilling hazards is intended to assist the CONTRACTOR in preparing the Bid. The DISTRICT or GEOLOGIST does not guarantee its accuracy or that it is necessarily indicative of conditions to be encountered in drilling the wells. The CONTRACTOR shall satisfy himself regarding all local conditions affecting the work by personal investigation and neither the information on local geology, nor that derived from maps or plans provided by the DISTRICT or his agents shall act to relieve the CONTRACTOR of any responsibility hereunder or from fulfilling any and all terms and requirements of the Technical Specifications.

The CONTRACTOR should be aware of possible difficult drilling conditions and problems that may be encountered during the construction and testing of the wells. Typical examples include, but are not limited to, lost circulation zones, pressurized zones, and potential intervals of swelling clay and caving sand. The CONTRACTOR should be prepared for such eventualities. The production casings shall seal off all formations encountered along their entire length and open borehole completions shall be free of

obstructions. The drilling of straight, gauge holes and setting of all casings to specified depths is a priority requirement of these Technical Specifications. Borehole straightness, which will permit casings to be set at specified depths and facilitate achievement of proper cement seals, shall not be sacrificed for drilling speed. These and other pertinent factors shall be taken into consideration by the CONTRACTOR in planning and executing the Project.

**B. ANTICIPATED GEOLOGY AND POTENTIAL HAZARDS**

It is anticipated that the boreholes will encounter undifferentiated sand and clay deposits of the surficial aquifer to depths of 110 feet bls. The surficial sands and clays are underlain by the fossiliferous clays and limestone of the Intracoastal Formation, which makes up the intermediate aquifer. Below the Intracoastal Formation are more consolidated limestone of the Bruce Creek Formation and Suwannee Limestone Formation which comprises the Upper Floridan aquifer in Gulf County and is the deepest hydrogeologic unit anticipated to be encountered in this investigation.

**C. HYDROLOGIC CONSIDERATIONS**

Recent data from a nearby existing monitor well indicate that potentiometric heads in the Floridan aquifer are generally 5 to 10 feet NGVD in the study area. According to LIDAR data, land surface at the site slopes east to west from 9 to 12 feet NGVD.

It shall be the CONTRACTOR'S responsibility to control all flow and discharge of water produced during all stages of well construction, development, and testing. This shall be implemented using drilling mud only as a weight material to suppress flow during mud-rotary drilling and through the use of a flow preventer or other approved flow control device during reverse-air drilling. The use of salt or others brines as a weight material shall not be allowed without prior approval of the GEOLOGIST and the DISTRICT. The wellhead shall be sealed at all times when no work is being conducted.

**PART 3 – MOBILIZATION, SITE PREPARATION AND DEMOBILIZATION**

**A. MOBILIZATION**

The CONTRACTOR shall set-up the equipment necessary to achieve the quality of workmanship required by these Technical Specifications and to complete the Project on schedule.

**B. SITE PREPARATION**

1. The CONTRACTOR shall have buried utilities in the work areas located and marked prior to commencing site activities, in accordance with Section 1000 - E.

2. Within the limits of the work areas, the CONTRACTOR may clear scrub brush only as directed and to the extent necessary to facilitate the setup and safe operation of the drilling equipment. All material and debris resulting from clearing operations shall be disposed in a manner approved by the DISTRICT. It shall be the responsibility of the CONTRACTOR to obtain any permits that are required for these procedures.
3. As needed, land surfaces shall be filled and graded such that runoff is directed away from the above ground well head apparatuses.
4. As needed, the CONTRACTOR shall maintain an all-weather temporary access to the wells and construction staging areas.

The CONTRACTOR shall include the cost of this maintenance and sod and or plantings replacement in the lump sum pay item for Mobilization on the **Bid Sheet and Bidder Acknowledgment Form**.

### **C. DEMOBILIZATION AND SITE RESTORATION**

At the completion of the Project, the CONTRACTOR shall remove all excess materials and equipment and leave the sites in a condition acceptable to the GEOLOGIST and the DISTRICT. Work areas outside of the permanent well site easement shall be restored to original contours. Drilling areas shall be clean and free of debris, ruts, holes, and/or piles of dirt, brush or other natural and synthetic materials. All clean drilling and development materials can be spread and graded onsite. If any contamination is encountered during drilling, work will cease, and the contaminated materials may need to be drummed.

All areas disturbed by construction shall be restored to a condition at least equal to the preconstruction condition including, but not limited to, all landscaping, driveways, roads, fences, and other improvements. The CONTRACTOR shall maintain a photographic record of pre- and post-construction conditions at the work sites to substantiate any claims for pre-existing damage and submit photographic records as a part of the completion report for each well as previously discussed in Section 1004, "Reports."

## **PART 4 - DRILLING REQUIREMENTS**

### **A. EQUIPMENT REQUIREMENTS**

The CONTRACTOR shall provide equipment that is in good working order. The DISTRICT will not approve or pay for standby time due to delays resulting from the failure of equipment. The DISTRICT and GEOLOGIST shall reserve the right to inspect the equipment of bidding CONTRACTOR to assure qualifications. The CONTRACTOR shall use his own drilling equipment having the capabilities necessary to do the described work. Any unnecessary delays or work stoppages due to equipment failure shall not be considered a valid reason for extending the Construction Schedule. The CONTRACTOR

shall be held responsible and payment may be withheld for damages to a well due to any cause of negligence, faulty operation, or equipment failure.

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 rig and supporting equipment supplied by the CONTRACTOR are incapable of completing a well, the CONTRACTOR will be required, at his own expense, to provide equipment with the necessary capacity.

Safety equipment, such as hard hats and hard-toed shoes, shall be used by the drilling crew while on the job.

**B. WATER SUPPLY**

The CONTRACTOR shall determine and be responsible for obtaining a suitable source water supply for well construction and drilling purposes. As part of the bidding process and for inclusion in the cost estimate the CONTRACTOR should evaluate the options for supplying water.

For the production well, the CONTRACTOR must utilize potable water. Only potable water approved by the DISTRICT shall be used for makeup of drilling fluid and grout preparation. It is the CONTRACTOR'S responsibility to coordinate with local utilities/water providers or take other measures to supply all necessary water to the site to complete the Project. A fire hydrant is located adjacent to the property. The CONTRACTOR may arrange with the local utility to obtain water from the nearby hydrant. The CONTRACTOR shall meter all potable water used and the cost of purchasing water should be included in the unit cost to drill. The CONTRACTOR may utilize water from the completed production well as a source water for monitoring wells to be constructed as part of this Project.

**C. DRILLING METHODS**

Casing can be installed by one of various methods selected by the CONTRACTOR and approved by the DISTRICT that will allow for the collection of cutting samples. Steel pit casing and PVC surface casing may be installed in unconsolidated formations by material-appropriate methods including but not limited to driving, hydraulic rotary or dual-rotary. The reverse-air or direct-air method shall be used for open hole drilling in the Floridan aquifer and in other formations where circulation cannot be maintained. Exceptions can be made where otherwise specified and in limited cases where formation yields are inadequate, and an external source of potable water is required to circulate cuttings.

Clear water circulation shall be used to purge casings of drilling mud and drill-out cement plugs following casing installation in the Floridan aquifer. The CONTRACTOR shall ensure that an adequate source of potable water or other external water supply approved by the DISTRICT is introduced into the well until adequate formation circulation has been established.

During drilling operations, the CONTRACTOR shall incorporate a bottom hole assembly consisting of the use of a lead bit and a staged drilling assembly with stabilizer to facilitate construction of a plumb borehole. Drilling mud shall be conditioned using a shale shaker and de-sanders, or other approved equipment before being recirculated into the borehole.

**D. DRILLING FLUIDS**

Fluid for mud-rotary circulation shall be a mixture of potable water and high-grade bentonite unless other types of drilling fluid or fluid additives have been approved in advance by the GEOLOGIST and the DISTRICT. All drilling additives must be NSF/ANSI Certified for use in public supply wells.

Proper makeup and conditioning of drilling mud should be applied to maintain a fluid density and viscosity sufficient to remove cuttings based on formation conditions. The borehole should be prepared for casing installation by continuing fluid circulation until cuttings have been completely removed from the borehole and the drilling fluid is uniform. Excessive mud thickening should be corrected prior to casing installation. Care should be taken to prevent swabbing due to high mud viscosity or high gel strength when the drill string is tripped in or out of the hole. Swabbing in unconsolidated formations can result in the loss of built-up mudcake or borehole collapse.

**E. LOST CIRCULATION**

Lost circulation conditions may be encountered while drilling with mud. The use of lost circulation materials shall be restricted to those materials approved by FDEP and NSF, with prior approval from the DISTRICT. Drilling without circulation is not acceptable without consent of the GEOLOGIST. If loss of circulation or no return of fluid is encountered, the GEOLOGIST shall be notified immediately of what remedial measures are underway to re-establish circulation and complete the drilling program according to the Technical Specifications.

**F. CUTTINGS, DRILLING FLUID, AND FORMATION WATER DISPOSAL**

Unless otherwise directed by the DISTRICT, drill cuttings and fluids from mud-rotary drilling shall be disposed of on-site. An approved area for cuttings and drilling fluid disposal shall be identified by the DISTRICT and GEOLOGIST prior to the drilling. If necessary, formation fluids from well development shall be treated to remove suspended solids (e.g. settling tank, silt fence, hay bales, etc.) and then discharged, with DISTRICT approval, to a local storm water catch basin or on-site detention pond. In all cases, a discharge point manifold arrangement shall be emplaced in order to eliminate erosion or any other impact to soil, vegetation, wildlife or create any hazard. For purpose of the Bid, the CONTRACTOR should assume that the discharge point will be located up to 500 feet from the drill site.

Cost for drumming contaminated cuttings and fluids shall be provided as an option to be exercised only at the direction of the DISTRICT or GEOLOGIST.

**G. CEMENTING PROCEDURES**

The CONTRACTOR will prepare and submit a site-specific grouting plan that describes the approach to cementing the pit/surface and primary well casings. The grout plan will be reviewed and approved by the DISTRICT prior to proceeding. The plan will indicate total cement volume estimates and whether grouting will be performed in one single lift or in stages. Adequate details and calculations shall be included to support the grouting method and the final integrity of the well casings.

Unless an agreeable alternative is proposed and approved, steel casing for open-hole wells installed by the rotary method shall be pressure grouted in one continuous lift from the bottom to top. Cementing of PVC casing for open-hole wells shall be accomplished in stages by means of a collarless tremie pipe except for the first stage cement, which shall be pressure grouted. Cementing of PVC-cased, screened wells shall be performed, in stages as necessary, by means of a collarless tremie pipe from the top of the filter seal material to land surface. Before each cementing stage, the CONTRACTOR shall tag the top of the cement emplaced in the previous stage with a collarless tremie pipe and recondition the mud to assure proper mud displacement by the cement.

Grouting shall be undertaken using Type II neat Portland cement. The neat cement may have up to 5% bentonite added. The first stage of cementing shall utilize the pressure grouting method to establish a cement seal at the base of the casing. Subsequent stages shall be performed using a steel tremie pipe. The CONTRACTOR shall always maintain the bottom of the steel tremie pipe within the placed cement during grouting until the cement stage is complete and cement in the steel tremie pipe has been displaced. The CONTRACTOR shall take appropriate measures to avoid exceeding the allowable collapse and burst pressures of the PVC casing, taking into account the heat of hydration produced during grout setup.

It may be necessary to use gravel in sections of the borehole that exhibit high transmissivity to reduce the loss of cement to the formation. The use of gravel shall be coordinated with and approved by the DISTRICT before use. Gravel shall be paid at the same cost (per linear foot of casing installation) of cementing. The CONTRACTOR shall tag the top of the gravel emplaced in the previous stage with a steel tremie pipe before any additional cement stage is performed.

Grout-set times will follow the well construction guidelines appropriate for the wells use. For public supply wells, grout-set times will be at least 72 hours in accordance with NFWFMD Chapter 40A-3. Monitor wells will have grout-set times of no less than 12 hours. The CONTRACTOR shall adhere to all minimum set times for cement prior to drilling out the well casing.

It may be necessary to plug back a portion of a borehole with cement. In such cases, cementing shall be done through a steel tremie pipe positioned slightly above the bottom of the borehole or top of the previous cement stage. The CONTRACTOR shall estimate the volume of cement required to back-plug only the portion of the borehole specified by the GEOLOGIST and shall receive approval from the GEOLOGIST or the DISTRICT prior to beginning plugging.

## **H. WELL DEVELOPMENT**

The CONTRACTOR shall utilize methods specified by the DISTRICT or GEOLOGIST and continue until the DISTRICT or GEOLOGIST determines it is appropriate to cease development. Open-hole FAS wells shall be developed by direct-air lift, reverse-air lift or high-capacity pumping methods depending on aquifer yield and need to collect water samples during development activities. Development water shall be directed away from well heads so as not to allow pooling.

For SAS and IAS screened wells, the surge block method of development shall be utilized unless an alternate method is approved by the DISTRICT. A surge block shall be used alternatively with a pump and/or bailer so that the material that has been agitated and loosened by the surging action is removed. Each screened well shall be developed by the cycle of surging and pumping/bailing until the water is clear and sediment-free. The surging procedures are applied to loosen bridges and move material toward the well intake.

The surge block assembly shall be of sufficient weight to free-fall through the water in the borehole and create an outward surge. The surge block shall permit some of the fluid to bypass the block on the downward stroke around the perimeter of the surge block and/or through a bypass valve. The surge block shall be lowered to the top of the well screen and operated in a pumping action with a typical stroke of about three feet. The surging shall start at the top of the well screen, and incrementally and gradually move downward to the bottom of the screened interval. Surging at each incremental depth shall be initially gentle, with surging energy gradually increasing during the development process. The surge block shall be removed at regular intervals and a pump or bailer shall be used to remove turbid water from the well.

The CONTRACTOR shall complete development of screened wells by furnishing and developing the well with a low-capacity submersible or centrifugal pump. Pumping rates should be adjustable to allow maximum discharge during development while maintaining the water level in the well above the top of the well screen.

The CONTRACTOR shall furnish a calibrated turbidity meter and periodically sample the pump discharge for turbidity to determine when adequate development has been achieved to the satisfaction of the DISTRICT or GEOLOGIST. When needed, the CONTRACTOR shall have a mechanism set up for GEOLOGIST to measure the pumping water level and obtain water quality samples at any time during well development. These results shall be recorded in the CONTRACTOR's Daily Log.

**I. WELLHEAD SECURITY**

At all times during the progress of the Project, the CONTRACTOR shall use reasonable precautions to prevent either tampering with the well or the entrance of foreign material into the wells/boreholes. When flowing conditions may be encountered, the well shall be contained at all times to prevent uncontrolled flow. The well shall be sealed at the end of the workday to prevent any potential for wildlife or other biological entrance.

**J. WELL FLOW SUPPRESSION**

The CONTRACTOR shall control flow as necessary during all stages of well construction, development and testing. Implement using drilling mud only as a weight material to suppress flow during mud-rotary drilling and through the use of a blowout preventer or other flow control device during reverse-air drilling. The use of salt or other brines as a weight material will not be allowed without prior approval of the GEOLOGIST and DISTRICT. Utilize a blowout preventer of a commercially available, single annular type, or approved equivalent. Seal the wellhead at times when no work is being conducted.

**PART 5 – DATA AQUISITION**

**A. FORMATION SAMPLES**

One set of formation samples (drill cuttings) shall be collected at 10-foot intervals and at every formation change during the construction of the FAS monitor/saltwater interface exploration well. Bagging over shorter intervals may be specified by the DISTRICT or GEOLOGIST in cases where significant lithologic changes occur. Samples shall be preserved in sample bags furnished by the CONTRACTOR and plainly marked with the well identification number and depth below land surface from which they were collected. The CONTRACTOR shall obtain the samples, provide acceptable facilities for storage of samples while they remain on site, and deliver them to the GEOLOGIST or the DISTRICT. Samples shall be of such volume that they can later be divided into two sets.

**B. GEOPHYSICAL LOGGING**

The CONTRACTOR shall obtain qualified personnel to perform the borehole geophysical logging. The name and qualifications of the SUBCONTRACTOR or in-house personnel that will perform the logging shall be provided by the CONTRACTOR with the Bid. The CONTRACTOR shall be responsible for coordinating with any SUBCONTRACTORS to ensure that there are no delays.

A standard suite of geophysical logs shall include caliper, natural gamma, spontaneous potential (SP), single-point resistance (SPR) and short and long normal electrical resistivity (8/16/32/64). Static and dynamic fluid resistivity logging will be performed in



addition to the standard suite of geophysical logs on the saltwater interface portion of the Floridan aquifer monitor well. Multiple logging events may be needed. The borehole shall be prepared and conditioned prior to logging to ensure that it is open and can be logged with a minimum of delay. Tool runs for all logs, except the natural gamma log, shall be made through the entire open hole interval for the respective logging stage. The natural gammas log shall be run the entire length of the well from bottom to top.

An electronic copy of each geophysical log shall be provided to the GEOLOGIST and the DISTRICT on the day logging is performed. The GEOLOGIST and DISTRICT shall each be provided with additional hard copies of each log and one copy of each log in electronic (LAS, ASCII) and PDF format with the As-Built Well Schematic.

**C. WATER LEVEL MONITORING**

The CONTRACTOR shall furnish a water level measuring device and record the static water level in the well at the beginning and end of each drilling day, after each break in circulation lasting more than one hour, and prior to each drill rod connection during reverse-air drilling. Estimates of drilling fluid levels in open boreholes should be made during well construction when not circulating mud. These results shall be recorded in the CONTRACTOR's Daily Log.

**D. SPECIFIC CAPACITY TEST**

A specific capacity test will be performed on the intermediate aquifer test production well (IAS-1) following construction and development. The well will be pumped at a rate of approximately 375 gpm for 24 hours, following the direction of the GEOLOGIST.

The CONTRACTOR shall furnish, install, and remove all equipment necessary to conduct the test, including but not limited to, a vertical turbine or submersible pump, generator or other electrical supply to operate the pump, and a discharge system to convey the water to the approved discharge point. The test pump and discharge system for the test production well shall be capable of constant rate withdrawals ranging from 250 to 450 gpm.

The CONTRACTOR shall furnish and install a discharge system to convey water to an approved discharge point or set of multiple points (e.g. screened or perforated pipe) which is located up to 500 feet from the production test well site. The proposed layout and equipment for the discharge system must be approved by the DISTRICT. The discharge system shall be equipped with a throttling valve, a calibrated flow meter to accurately measure discharge, and a sample tap in an easily accessible location. Clear access to the wellhead for water level measurement must be maintained. If the same test pump for the specific capacity test is also used for high volume well development of the test production wells, as is anticipated, the time between completing development and initiating the specific capacity test must be sufficient to allow the water level in the well to return to static conditions, as determined by the GEOLOGIST.

**E. AQUIFER PERFORMANCE TESTING (APT)**

**TASK 1 – MATERIALS AND PREPARATION FOR CONDUCTANCE OF APT**

The CONTRACTOR shall perform one (1) APT at the site that is anticipated to last at least 72 hours. The test may be extended, in 24-hour intervals, for up to an additional 96 total hours at the discretion of the DISTRICT. An Aquifer Test Plan, based on the results of the 24-hour specific capacity test, containing static head, anticipated pumping head, and anticipated water level change in the monitor wells will be provided by the DISTRICT prior to the performance of the test. The CONTRACTOR shall be responsible for designing the pumping system and providing all on-site equipment necessary to facilitate the conductance of the APT including, but not limited to, the following:

1. Furnish, install and operate downhole test pump (250 – 450 gpm anticipated), drop pipe (up to 150 feet of drawdown is possible), discharge arrangement, generator and all other necessary items to be used to pump test well FAS-1/IAS-1. The pump should be capable of maintaining a constant pumping rate under operating (e.g. test) conditions.
2. Provide throttling devices to adjust pumping rates as specified by the DISTRICT, and furnish and install a gate valve or equivalent on the discharge side of the pump to obtain the optimal discharge rate, shut off flow, and stop gravity drainage back into the well casing. The discharge pipe shall also be equipped with a calibrated flow meter, as described below, to accurately measure the pump discharge and a sampling tap in an easily accessible location. Clear access to the wellhead in order to measure water levels is essential.
3. Provide all necessary materials and personnel to insure continuous operation of the pump for the duration of the test.
4. Furnish and install an in-line flowmeter with a flow rate indicator and totalizer that has been calibrated within the last 90 days, and capable of measuring discharge up to 500 gpm. Furnish any permit required for the discharge of pumped water during the test.
5. Furnish and install all piping and hardware necessary to provide a leak-proof seal at the wellhead and along the discharge line to the point of discharge (POD). The CONTRACTOR shall furnish and install a discharge system to convey water to an approved discharge point or set of multiple points (e.g. screened or perforated pipe) anticipated to be located up to 500 feet from the production test well site. The discharge system must reduce the discharge velocity and disperse volume to prevent erosion at the POD. The proposed layout and equipment for the discharge system must be approved by the DISTRICT.
6. Install an access port on top of the test production wellhead with a minimum inner diameter of one-inch to permit installation of a 100-psi pressure transducer. The transducer must be able to reach within 10 feet of the top of the pump intake.

7. Provide any well-head modifications necessary to permit installation of external pressure transducers in monitor wells.
8. Equip and install down-hole pressure transducers based on anticipated water levels and drawdowns in each well. Pressure transducers shall be a vented system capable of recording the whole range of water level changes during the APT. Equipment should be equivalent or better than the In-Situ Level TROLL 400 Data Logger. A barometric logger, such as the In-Situ BaroTROLL or equivalent, shall also be utilized during the extent of background, testing, and post-test recovery.

## TASK 2 – EXECUTION OF THE IAS APT

The CONTRACTOR will execute the following specific requirements to facilitate the conductance of the IAS APT and demobilization of equipment:

1. Capture seven (7) days of background water-levels from all aquifer and barometric pressure readings from the site prior to initiating pumping.
2. Provide an on-site, qualified operator to operate the pump and generator and regulate a constant discharge rate for the duration of the pumping test.
3. Operate pump and monitoring equipment continuously at a rate specified by the GEOLOGIST or DISTRICT for a duration of 72 hours. Note that transducers will be installed and monitored in all constructed test and monitor wells during the execution of the APT.
4. If during the IAS APT measurable drawdown in FAS-M1 or IAS-M2 is not recorded after 72 hours, continue the APT for up to an additional 96 hours or until the DISTRICT or the GEOLOGIST decides it is appropriate to terminate the test.
5. Collect monitoring data for approximately seven (7) days after cessation of pumping.
6. Remove all equipment from the site and re-seal the wellheads at the completion of the APT.
7. Organize and deliver all data collected from each phase of testing to the GEOLOGIST and the DISTRICT in Microsoft Excel format.
8. Provide daily logs of other site observations pertinent to the test such as time of precipitation events that may have occurred during the test or during the pre- and post-test background data collection. Take periodic verification water level measurements to verify pressure transducers and automated dataloggers are functioning properly. Adjust frequency based on the phase of the test.

## PART 6 - MATERIAL SPECIFICATIONS

### A. GENERAL

The minimum standards described in the following Material Specifications shall apply to all well construction activities.

### B. PIT AND SURFACE CASING

The material, length, and method of pit and surface casing installation shall be determined by the CONTRACTOR, subject to approval by the GEOLOGIST and DISTRICT. For the purpose of determining minimum pipe clearance, it is assumed in the Technical Specifications that pit casing will be constructed of ASTM A53 Grade B 0.375-inch wall black steel and plastic surface casing shall conform to ASTM F480 for SCH 80 PVC. The inside diameter of the pit/surface casing shall be adequate to accommodate a drill bit that will provide a minimum annulus of two inches between the production casing collars and the reamed borehole. Casing specifications and installation method are provided as part of these Technical Specifications.

PIT/SURFACE CASING SCHEDULE					
Well ID	Well Type	Aquifer Cased	Casing Diameter (in)	Material	Total Depth (ft)
FAS-M1	Monitor Well	FAS	12	PVC	110
IAS-1	Test Production Well	IAS	18	Black Steel	120
IAS-M1	Monitor Well	IAS	10	PVC	120
IAS-M2	Monitor Well	IAS	10	PVC	120
SAS-M1	Surficial Monitor Well	None	--	--	--

### C. WELL CASING AND SCREEN

The primary well casing material for the intermediate aquifer test production well (IAS-1) shall be new, 10-inch diameter, black steel pipe having 0.365-inch wall thickness. **Casing shall meet or exceed standards specified in Rules of the Northwest Florida Water Management District, Chapter 40A-3.507 and be properly mated to the screen to prevent galvanic corrosion.** The well screen to be used hereunder as a part of the permanent well installation shall be of new, 10-inch diameter, 0.365-inch thick, ASTM A-312 seamless T304 stainless-steel pipe. The well screen shall be of continuous slot design, 0.040-inch slot size, to provide maximum open area to reduce entrance velocity, increase hydraulic efficiency and promote more effective development. The well screen shall be constructed of vee-shaped trapezoidal wire continuously wrapped around an array of equally spaced support rods of the same material. Each junction of wire/rod contact shall be resistance welded. The end fittings shall be made of T304

stainless steel. The well screens shall be manufactured by Johnson Screens or approved equal. Production zone may contain sections of screen and blank based on findings. All blanks will also be 10-inch diameter, 0.365-inch thick, ASTM A-312 seamless T304 stainless-steel pipe to mate with screen. Final casing and screen interval lengths shall be determined in the field by the GEOLOGIST or DISTRICT based on collected hydrogeologic data.

The primary casing material for the Floridan aquifer monitor well (FAS-M1) shall be new, 6-inch diameter, flush-threaded SCH 40 PVC casing or other PVC material approved by the DISTRICT. The primary casing and screen material, as appropriate, for the intermediate aquifer monitor wells (IAS-M1 and IAS-M2), and surficial aquifer monitor well (SAS-M1) shall be new, 4-inch diameter, flush-threaded SCH 40 PVC casing or other PVC material approved by the DISTRICT. Casing must be as specified above that meets ANSI/NSF Standard 60-1998 standards for use in public supply wells and conforms to ASTM F-480, latest version. Screen material shall be new, 4-inch SCH 40 PVC, 0.010-inch slot provided in 10-ft sections. All pipe joints shall be pinned at each joint connection with four (4) stainless steel screws properly spaced at 90<sup>0</sup> intervals so that the casing string can withstand the tensile load experienced during installation. Screws shall be installed in a manner that will prevent them from penetrating though the internal surface of the casing. Final casing and screen interval lengths shall be determined in the field by the GEOLOGIST or DISTRICT based on collected hydrogeologic data.

The use of spline connected PVC casing with performance characteristics that meet or exceed those otherwise specified, will be considered as a substitute material, subject to approval by the GEOLOGIST and the DISTRICT. Contractor is responsible for ensuring casing specifications meet or exceed requirements for hydraulic collapse pressures, and tensile strength to complete the work outlined in these Technical Specifications. Casing and screen specifications, including material weight and size, rated working pressures, resistance to hydraulic collapse pressures, and tensile strength shall be provided to the DISTRICT for review and approval.

<b>WELL CASING AND SCREEN SCHEDULE</b>					
<b>Well ID</b>	<b>Well Type</b>	<b>Pipe Type</b>	<b>Pipe Diameter (in)</b>	<b>Material</b>	<b>Total Depth (ft)</b>
FAS-M1	Monitor Well	Casing	6	PVC	340
IAS-1	Test Production Well	Casing	10	Black Steel	120
		Screen	10	Stainless Steel	300
IAS-M1	Monitor Well	Casing	4	PVC	120
		Screen	4	PVC	300
IAS-M2	Monitor Well	Casing	4	PVC	120
		Screen	4	PVC	300
SAS-M1	Surficial Monitor Well	SAS	4	PVC	100

#### **D. BOREHOLE FILTER AND SEALING MATERIAL**

For the intermediate aquifer test production well (IAS-1), appropriate gravel shall be selected by the CONTRACTOR, based on a 0.040-inch slot screen, to provide proper retention of filter pack (90% of the filter pack). The gravel material shall be clean and well-rounded with a maximum of 10% flat surfaces and shall be of no less than 95% siliceous content to avoid dissolution in low pH water. The gravel shall be sterilized prior to being placed in the borehole. During the graveling operation, the chlorine content of the fluid used to place the gravel shall be no less than 50 mg/L. Placement of the gravel shall be by pumping through a tremie pipe and shall be completed in one continuous operation from the bottom of the borehole to approximately two to three feet above the top of the screened interval.

For the screened, PVC monitor wells, the CONTRACTOR shall use only clean 20/30 grade silica sand as filter material opposite the PVC well screen. The 20/30 filter sand around the screen and sump shall extend from the bottom of the borehole to approximately two to three feet above the top of the screened interval.

The CONTRACTOR shall allow adequate time for the filter material to settle and intermittently tag the top of the filter pack with the tremie pipe to insure proper placement above the top of the screened interval. The filter pack shall be capped with a minimum two-foot seal (e.g. fine sand or bentonite). If bentonite is used allow one hour to hydrate. If requested by the GEOLOGIST or DISTRICT, CONTRACTOR shall pump or surge the well to ensure filter pack is properly seated prior to adding sealing material.

#### **E. CENTRALIZERS**

Casing for rotary installed wells shall be fitted with centralizers (Halliburton Model S-4, or equivalent) meeting API Specification 10D at 0, 90, 180, and 270 degrees around the casing at each position. Centralizers shall be fastened to the casing using clamps or screws provided by the manufacturer and shall not penetrate the casing material. For steel casing, centralizers may be welded steel. Centralizers shall be placed directly below casing joints as follows:

##### **PIT/SURFACE CASING**

One set at 5 feet above the bottom end of the casing and at intervals not greater than 40 feet.

##### **PRIMARY CASING STRINGS**

1. One set 5 feet above the base of the casing.
2. One set 20 feet below land surface.

3. Additional sets approximately evenly spaced, depending on borehole conditions, between the upper and lower centralizers at intervals not exceeding 40 feet.

The above depths may be modified with approval of the DISTRICT and GEOLOGIST. All centralizers shall be in a precise vertical alignment, one above the other, to allow for the placement of a tremie pipe in the annulus and have sufficient size and strength to keep the casing centered in the borehole. The cost for centralizers shall be included in the unit price for casing installation.

**F. CEMENT**

Casing grout shall be ASTM Type II (API Class B) neat Portland cement mixed with no more than 6.0 gallons of water per sack of cement. Cement additives with ANSI/NSF Standard 60-1998 approval may be used to regain lost circulation, if approved in advance by the GEOLOGIST and DISTRICT. Organic polymers, peanut shells, and cotton seed hulls shall not be used as lost circulation materials. All grout mixtures shall be approved by the GEOLOGIST in advance of placement. Up to 5% bentonite may be added to neat cement grouts.

All wells shall be sealed in accordance with Chapter 40A-3.517. The Floridan and/or Intermediate production wells may be used for future public supply and will require a minimum 72-hour grout setting time in accordance with 40A-3.517(4).

**PART 7 - WELL COMPLETION**

**A. WELL COMPLETION**

The wells shall be completed as follows:

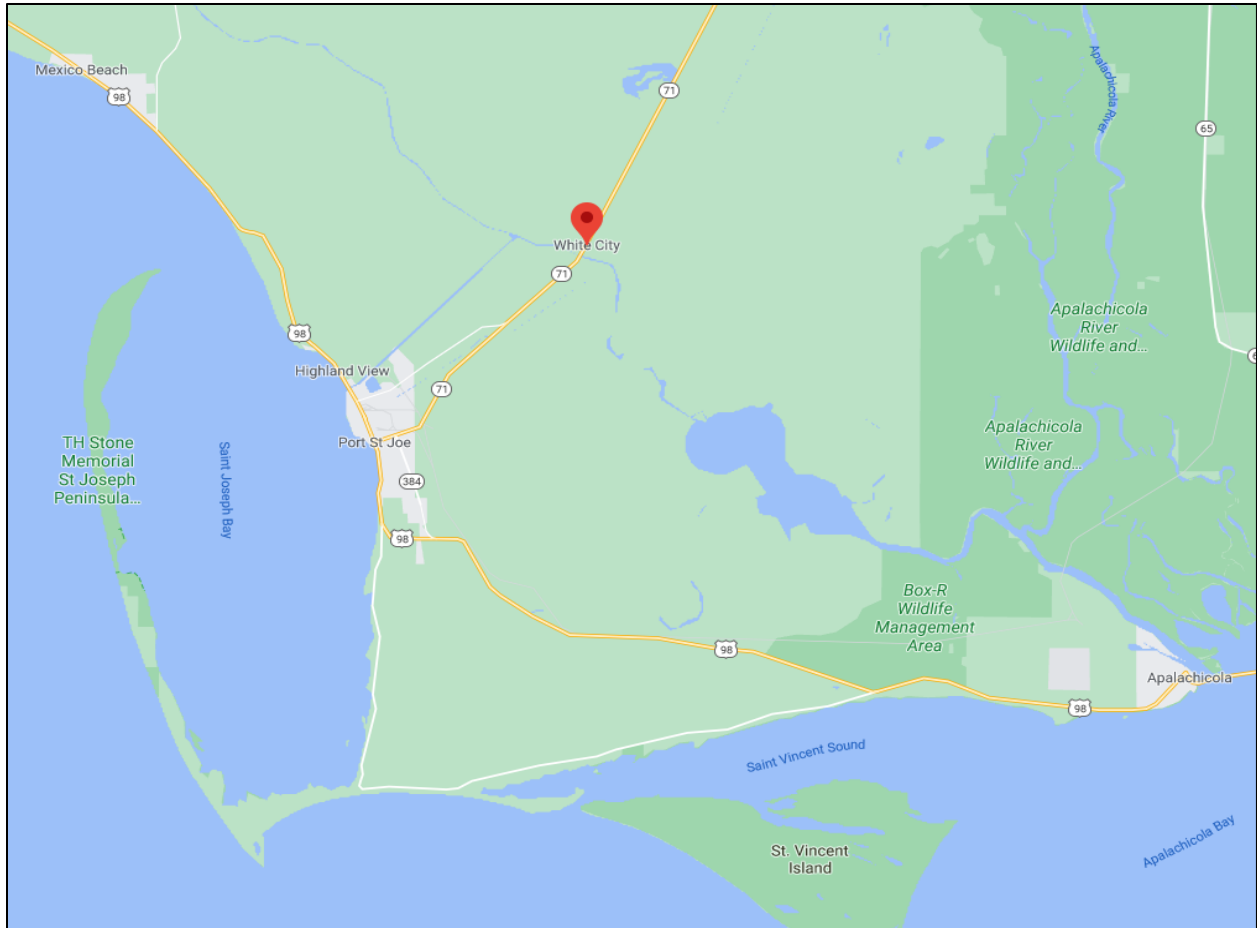
1. The 10-inch test production well (IAS-1) shall have a steel plate spot-welded to the top of the casing to prevent anything from entering the wells. A 4-foot x 4-foot wide by 4-inch thick concrete well pad shall be placed at grade level with the well centered inside the pad, protected by four (4) steel bollards placed at the outer corners of the pad. Bollards shall be painted yellow.
2. The 6-inch FAS monitor well and all 4-inch monitor wells shall be secured at the surface within an 8-inch square, aluminum well protector. The top of the aluminum protective casing shall be positioned at three (3) feet above pad level, based on grade level pad and finished with a lockable protective lid. The primary well casing shall be finished inside and approximately 6-inches below the top of the protective casing and sealed with a locking compression cap. A 2.5-foot x 2.5-foot wide by 4-inch thick concrete well pad shall be placed at grade level with the well centered inside the pad, protected by four (4) steel bollards placed at the outer corners of the pad. Bollards shall be painted yellow.

The CONTRACTOR shall furnish all labor, materials, and equipment required to complete the wells as specified.

**END OF SECTION**



**Figure 1. Site Location Map (site shown as red marker)**



**Figure 2. Site Layout and Proposed Well Locations Map.**

