

**AGREEMENT FOR PROFESSIONAL SERVICES FOR WATER PLANT AND WATER  
RESOURCES ENGINEERING SERVICES RFQ2019070  
WORK ORDER 9**

**Indian River County Department of Utility Services  
Upper Floridan Aquifer Modeling and Consumptive Use Permit Modification**

This Work Order Number \_\_\_ is entered into as of this \_\_\_ day of \_\_\_\_\_, 202\_, pursuant to that certain AGREEMENT FOR PROFESSIONAL SERVICES FOR WATER PLANT AND WATER RESOURCES ENGINEERING SERVICES RFQ2019070 entered into as of this 5<sup>th</sup> day of November, 2019 (collectively referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and Kimley-Horn and Associates, Inc., ("Consultant").

The COUNTY has selected the Consultant to perform the professional services set forth on Exhibit A (Scope of Work), attached to this Work Order and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit B (Fee Schedule), attached to this Work Order and made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit C (Time Schedule), attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.4 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

**CONSULTANT:**

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

Print Name: Brian Good, P.E.

Title: Principal

**BOARD OF COUNTY COMMISSIONERS  
OF INDIAN RIVER COUNTY**

By: \_\_\_\_\_  
Peter D. O'Bryan, Chairman

BCC Approved Date: \_\_\_\_\_

Attest: Jeffrey R. Smith, Clerk of Court and Comptroller

By: \_\_\_\_\_  
Deputy Clerk

Approved: \_\_\_\_\_  
Jason E. Brown, County Administrator

Approved as to form and legal sufficiency: \_\_\_\_\_  
Dylan T. Reingold, County Attorney

**WORK ORDER NUMBER 9**  
**UPPER FLORIDAN AQUIFER MODELING AND CONSUMPTIVE USE**  
**PERMIT MODIFICATION**  
**EXHIBIT A**  
**SCOPE OF WORK**

**PROJECT UNDERSTANDING**

Indian River County (County) operates two water treatment plants (North County and South County) and two associated wellfields (North and South) that provide potable water to the County's customers. The County currently operates under Consumptive Use Permit (CUP) No. 10524, issued by St. Johns River Water Management District (SJRWMD). The allocation in the current CUP allows for up to 6.438 million gallons per day (mgd) to be withdrawn from the North wellfield and 6.4 mgd from the South wellfield, for a total allocation of 12.438 mgd. The County anticipates that by the permit expiration date in 2032, the potable water demand will result in an increased need for 3.390 mgd of additional water, for a new total allocation of 16.228 mgd.

The County has recently explored numerous options for reaching the 2032 demand, including increasing withdrawal from existing wellfields, adding new wells in the south county area, and splitting flows between the two wellfields. The County is currently in the process of investigating new water sources (APPZ/Lower Floridan Aquifer) for long-term water supply needs. In the meantime, the County wishes to revisit the option of obtaining the additional 3.390 mgd from the existing North County wellfield (9 existing wells), identifying the impacted Existing Legal Users (ELU), and preparing a well avoidance plan and mitigation strategy for future impacts, if feasible.

The following Scope of Services outlines the approach to prepare the appropriate SJRWMD groundwater model, quantify impacts from the increased pumping, summarize the ELUs, conduct a well survey, and prepare an avoidance plan. Upon completion of the modeling and ELU assessment, Kimley-Horn (Consultant) will prepare the SJRWMD application for modification of the CUP. The Consultant will contract with JLA Geosciences (JLA) to serve as a subconsultant for the preparation of the groundwater modeling. The Kimley-Horn and JLA team shall be collectively referred to as the Consultant in the following Scope of Services.

**SCOPE OF SERVICES**

**Task 1: Modeling Approach Memorandum (Lump Sum)**

The Consultant shall review CUP and groundwater data from the County and SJRWMD, including ELU facilities and allocations, SJRWMD impact evaluation criteria and historical monitoring data for water levels, water quality, and well withdrawals to form the basis of the approach for the groundwater modeling effort that will support a request for

modification of the County's CUP. The Consultant will also review SJRWMD recommended modeling tools to be used for the impact evaluation, including the recently released update expanded East Central Florida Transient Model (ECFTX) Groundwater Vistas Regulatory Version 2.0 and the existing COUAQ modeling that could be updated, as well as the updated ECFM model developed by SFWMD. Following the data and model review, the final proposed modeling approach shall be documented in a technical memorandum, reviewed by the County, and then submitted to SJRWMD CUP staff for review and concurrence. Modeling will not commence until SJRWMD has approved the approach memorandum.

*It is noted that discussions with SJRWMD are ongoing regarding the need to assess potential impacts to the surficial aquifer system (SAS), since the County previously demonstrated that proposed Floridan aquifer system (FAS) withdrawals showed no potential impact on the SAS. If SJRWMD staff determines the County does not need to further assess potential impacts to the SAS, then efforts involving the ECFTX or COUAQ Models shall be eliminated from this scope with no cost to the County incurred.*

### **Task 2: Coordination with SJRWMD (Lump Sum)**

The Consultant will prepare for and participate in meetings with SJRWMD at critical milestones throughout this process. This task will include one modeling approach memo review meeting, one pre-application meeting, two review meetings during modeling phase, up to seven monthly progress meetings with SJRWMD staff and two interim review meetings with County staff. All meetings will be virtual, unless otherwise requested by the County or SJRWMD.

### **Task 3: Groundwater Modeling Evaluation (Lump Sum)**

Upon approval of the approach memorandum by SJRWMD, the Consultant will begin preparing the groundwater model and selected scenarios. The proposed groundwater modeling work involves modifying and applying existing calibrated SFWMD and SJRWMD groundwater models to simulate the County's North and South wellfields in response to proposed allocation changes. The ECFM was developed and updated by the SFWMD and is the SJRWMD recommended tool to evaluate the County's FAS withdrawals on FAS related impact criteria. The ECFTX was developed and updated by SJRWMD and is the SJRWMD recommended tool to evaluate the County's FAS withdrawals on SAS related impact criteria, if needed; however, the existing COUAQ modeling may be updated as a result of Task 1 findings in lieu of applying the ECFTX Model.

The models will be modified as needed and executed consistent with criteria described in the SJRWMD Applicant's Handbook. Modeling will include the existing condition and proposed groundwater model simulations due to increasing the North Wellfield allocation by 3.39 MGD. ELUs within the cone of depression will be simulated along with the proposed use in a cumulative modeling scenario. Model performance will be presented using drawdown contours, simulated changes in water level and quality, and water budget summaries. The intent of the model scenarios is to provide reasonable assurances consistent with SJRWMD permitting criteria that proposed withdrawals do not result in: 1) adverse impacts to the water

resources, existing offsite land uses, migration of known contaminated groundwater to areas that are not contaminated; 2) significant saline intrusion; or 3) protected wetlands (if applicable). Additional work associated with mitigation of impacts listed above from proposed increased IRC withdrawals are not included in this scope. Identified and known adverse impacts to ELUs will be addressed in Task 6.

The Consultant will present the initial modeling results to the County prior to preparation of a written report. This will facilitate adjustments to the proposed assumptions, if required, and identify additional model simulations, if needed (note: additional model simulations may require additional funding to complete). Upon completion of the model simulations, the Consultant will prepare a draft report describing activities and results of the modeling analyses. The draft report will be submitted to the County for review and comment before presenting the draft to SJRWMD. Once comments are received from all parties, a final report will be produced for inclusion in the CUP permit modification package.

*It is noted that discussions with SJRWMD are ongoing in regard to the need to assess potential impacts to the surficial aquifer system SAS, since the County previously demonstrated that proposed FAS withdrawals showed no potential impact on the SAS. If SJRWMD staff determines the County does not need to further assess potential impacts to the SAS, then tasks involving the ECFX or COUAQ Models shall be eliminated from this scope.*

#### **Task 4: Preparation of Permit Application**

The Consultant will prepare the on-line permit modification application on behalf of the County, utilizing the modeling results as a basis for the application. The application will also require preparation of/updates to the following documents (with the responsible party notated parenthetically):

1. Update to Reclaimed Water Feasibility Study (County staff to complete)
2. Impact Evaluation (Consultant to complete)
3. Update to Water Conservation Plan (County staff to complete, if needed)
4. Public Supply – Form E (Consultant to complete; population projections have been provided by SJRWMD and update/revision not included in this scope of services)
5. Wellfield Operation Schedule (Consultant to coordinate with County staff)
6. Water Audit – SJRWMD does not have a water audit on file for the County in the past 10 years and has indicated that one will be required. County to prepare data; consultant to assist with finalization.

The Consultant will prepare and/or compile the documents for review and comment by County staff prior to submittal. The County will be directly responsible for providing the permit application fee of \$200 (or as otherwise indicated by SJRWMD).

#### **Task 5: Request for Additional Information (Time and Materials)**

The extent of RAIs that will be received on the application submittal is unknown at this time. This task provides for responding to up to two RAIs (one for modeling and one for the balance of the application). If additional RAIs are received, additional funding may be required

**Task 6: Existing Legal User Well Survey (Time and Materials)**

The modeling results will identify the number of ELUs within the area of impact resulting from the increased withdrawal/drawdown. This task provides for the Consultant to conduct well surveys for up to 30 ELUs. It is anticipated that each impacted ELU will require approximately 4 hours of labor effort (1 hour for coordination with property owners/set up site visit; 2 hours for site visit; 1 hour to log findings/summary report). If more than 30 ELUs are identified, an additional authorization will be required. This task will be performed on a time and materials basis; therefore, if less than 30 ELUs are identified, the Consultant will only incur costs associated with the reduced number of ELUs. The surveys will include making initial contract with each property owner, explaining the purpose of the survey, coordinating a site visit, meeting each property owner on site to discuss how the well is used, a visual inspection of the well, documentation of findings and incorporation into a summary report (letter report). This task will be structured to meet the SJRWMD requirements for a well survey and avoidance plan in support of a CUP permit application.

**Task 7: Project Management**

This task includes activities related to initiating, planning, executing, controlling, and closing the project. The Consultant will perform a technical review of the deliverables, in accordance with standards, prior to transmitting to the County. The Consultant will be responsible for overall coordination with JLA and oversight of the project execution. The task includes monthly invoicing, project financials and subcontracts.

## EXHIBIT B

### FEE SCHEDULE

The Consultant will provide these services in accordance with the Water Plant and Water Resources Engineering Services Agreement for Professional Services (RFQ 2019070) dated November 5, 2019, by and between INDIAN RIVER COUNTY (County), a political subdivision of the State of Florida and Kimley-Horn and Associates, Inc. (Consultant).

Kimley-Horn will perform Tasks 1 through 4 and 7 for the total lump sum fee as detailed below. Tasks 5 and 6 will be completed on an hourly, not-to-exceed basis as detailed below. Individual task amounts are informational purposes only. All permitting, application, and similar project fees will be paid directly by the County.

<b>Task</b>	<b>Description</b>	<b>Kimley-Horn</b>	<b>Subconsultant</b>	<b>Total</b>
Task 1	Modeling Approach Memorandum (LS)	\$ 6,253	\$ 18,450	\$ 24,703
Task 2	Coordination with SJRWMD (LS)	\$ 11,928	\$ 13,800	\$ 25,728
Task 3	Groundwater Modeling Evaluation (LS)	\$ 16,590	\$ 56,340	\$ 72,930
Task 4	Preparation of Permit Application (LS)	\$ 17,047	\$ -	\$ 17,047
Task 5	Request for Additional Information (T&M)	\$ 6,379	\$ 3,060	\$ 9,439
Task 6	Existing Legal User Well Survey (T&M)	\$ 31,799	\$ -	\$ 31,799
Task 7	Project Management (LS)	\$ 4,746	\$ -	\$ 4,746
		\$ 94,742	\$ 91,650	\$ 186,392

Lump sum fees will be invoiced monthly based upon the overall percentage of services completed. The Time and Materials tasks will be invoiced monthly based on costs incurred. Payment will be due per the contract terms.

### ADDITIONAL SERVICES

The following services are not included in the Scope of Services for this project but may be required depending on circumstances that may arise during the execution of this project. Additional services may include, but not be limited to the following:

- Permit application fees
- Design services related to new production wells
- Modeling of new wells or wellfields
- Cost estimating

## **EXHIBIT C**

### **TIME SCHEDULE**

Task 1 Modeling Approach Memorandum	30 days from Notice to Proceed (NTP)
Task 2 Coordination with SJRWMD	As needed, throughout project
Task 3 Groundwater Modeling Evaluation	
Initial Results	60 days from approval of memorandum
Draft Modeling Report	30 days from completion of initial results
Final Modeling Report	30 days from receipt of final comments
Task 4 Permit Application	Within 180 days of NTP
Task 5 RAIs	Response within 45 days of receipt
Task 6 Project Management	Project Duration