

CCNA2018 WORK ORDER 34

Reuse Control Panel Replacement at South County Wastewater Treatment Plant

This Work Order Number 34 is entered into as of this ____ day of _____, 2020, pursuant to that certain Continuing Consulting Engineering Services Agreement for Professional Services entered into as of this 17th day of April, 2018 (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 ("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:

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

By: _____

By: _____
_____, Chairman

Print Name: _____

Title: _____

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

EXHIBIT A

Work Order Number 34

Reuse Control Panel Replacement at South County Wastewater Treatment Plant

PROJECT UNDERSTANDING

Indian River County Utilities (IRCU) owns the South County Wastewater Treatment Facility (SCWWTF), a 2 MGD AADF facility that operates under FDEP permit FLA010435-005-DW1P-NR. The SCWWTF disposes of treated effluent via six on-site Rapid Infiltration Basins (RIBs) and off-site reuse customers.

The reuse system is served through the on-site pump station, which consists of three (3) 100-hp vertical turbine pumps and a subgrade wet well. The station operates similar to a conventional lift station (ladder logic), where pumps are called to run/stop via mercury switch floats. The control panel for the lift station is located outside on a separate pad, directly adjacent to the wet well. The starters for the 100-hp pumps are direct online (DOL or “across the line”) motor starters. Power and signal wiring from the reuse station are provided through an existing electrical building located near the pump station.

The control panel is antiquated and rests on a concrete pad that had differential settlement, resulting in undermined concrete slab and leaning control panel. Further failure of this slab may result in failure of the control panel and should be addressed immediately. Furthermore, the existing motor starters are inadequate for the reuse system and a more modernized approach to controlling pump operation should be explored to mitigate the frequent instances of water hammer experienced at the station.

It is our understanding IRCU desires to upgrade the following components of the reuse pump station:

- Demolish DOL starters and replace with Variable Frequency Drives (VFDs) to reduce energy consumption and mitigate water hammer issues
- Locate the VFDs within the existing electrical building and provide local HOA switch and electrical disconnect near pumps
- Provide continuous analog measurement of wet well level and discharge pressure

Kimley-Horn (“Consultant”) will utilize the services of C&W Engineering to perform the electrical engineering portions of this project. We are pleased to submit the following scope of services to IRCU for Reuse Control Panel Replacement at the SCWWTF:

SCOPE OF SERVICES

Task 1: Design Phase Services

Consultant will attend a kick-off meeting with IRCU to discuss the scope and phasing of the project in order to define the final scope of work, approach to phasing, and procurement approach. Consultant will perform on-site field measurements and data collection needed for design.

Consultant will provide electrical design for the VFD installation and demolition of the existing control panel and starters. Consultant will provide design for the PLC panel modifications needed to implement and install new VFD's within the existing electrical building and communicate with the SCADA system.

Consultant will review and coordinate VFD dimensional data from manufacturers which will be used in the final design of the VFD replacement. Consultant will review the size of the existing HVAC unit and equipment within the existing electrical building and determine impacts to system based off added heat loads generated by the proposed VFDs. Consultant will prepare and submit a brief technical memorandum (2-3 pages) that summarizes the impacts with 6- and 18-pulse VFD options with high level construction cost estimates associated with each option.

Consultant will develop a control logic description which presents the proposed operation for the reuse pump station under AUTO and MANUAL modes. The intent of the control logic description is to provide the Contractor's integrator the information necessary to program the station.

Consultant will provide 75% complete design deliverables consisting of progress drawings, specifications, control logic and Opinion of Probable Construction Costs (OPCC) for IRCU review.

Consultant will attend one (1) design review meeting. Consultant will incorporate IRCU review comments. Consultant will provide final (100%) design deliverables, consisting of drawings, specifications, control logic and OPCC.

Task 2: Bid Phase Services

Consultant will provide coordination with IRCU purchasing department for bidding the proposed improvements.

Consultant will attend one (1) on-site pre-bid meeting and respond to reasonable number of questions from potential bidders. It is anticipated that no more than two (2) addendums will be issued as part of this project.

Consultant will review the bids, provide a summary of comments and a letter that identifies the lowest price, most responsive, and most responsible bidder.

Task 3: Construction Phase Services

In general, Consultant will provide construction phase services for this project, consisting of; shop drawing review, coordination and phasing meeting attendance, responding to questions from Contractors, payment application review, change order review, review of operation and maintenance documents review, record drawing review, based on information provided by contractors.

Shop drawing submittals will be reviewed for conformance with the VFD specifications and their pricing proposal. Shop drawings will be submitted directly to Consultant. It is anticipated that approximately 4 shop drawings will be reviewed. Consultant will review the submittals and furnish review comments to the IRCU for acceptance. Upon completion of IRCU's review, Consultant will furnish complete review comments to Contractor.

Consultant will provide coordination of project status meetings and observation of construction for the duration of the project. Consultant will also review pay requests and provide recommendations for payment to IRCU for the progress of the work. Consultant will attend up to 2 progress meetings.

A maximum of four (4) site visits will be provided by the Consultant during construction and installation of the equipment at periods appropriate to the stages of construction to observe the progress to observe if in general, the work is proceeding in accordance with the Contract specifications. Consultant's duties will consist of witnessing installation/startup of VFD's, and PLC controls testing.

Start-up of the VFD's will be facilitated by the VFD manufacturer's representative and by the electrical Contractor. Consultant will observe the three (3) separate start-ups of the new VFD's once the installation is completed.

Consultant will prepare a "punch list" for the items that need to be completed for final closeout of the project. Consultant will provide two (2) site visits with the contractor to review the status of the completion of these punch-list items.

TIME SCHEDULE

Task 1 Deliverables: Technical Memorandum – 4 weeks after NTP
75% Design Deliverables – 6 weeks after IRCU review of TM
100% Design Deliverables – 6 weeks after IRCU review of 75%
Task 2 Deliverables: Bidding – 1 month
Bid Review – 2 weeks after receipt of bids
Task 3 Duration: 6 months (anticipated)

FEE SCHEDULE

We will provide these services in accordance with our Continuing Consulting Engineering Services Agreement for Professional Services dated April 17th, 2018, by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida (“COUNTY”) and Kimley-Horn and Associates, Inc., (“Consultant”).

The Consultant will provide professional services for a lump sum fee as follows:

Task No.	Task	Task Fee
Task 1	Design Phase Services	\$ 38,775
Task 2	Bid Phase Services	\$ 6,900
Task 3	Construction Phase Services	\$ 28,325
	TOTAL LUMP SUM FEE	\$ 74,000

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 include, but may not be limited to the following:

- Design improvements for the existing electrical building HVAC system
- FDEP permitting not anticipated due to no change in capacity
- Additional site visits beyond those listed herein
- PLC and HMI Programming or integration of proposed improvements