

CCNA2018 WORK ORDER 12

SOUTH OSLO WATER PLANT MEMBRANE REPLACEMENT AND PLANT IMPROVEMENTS

This Work Order Number 12 is entered into as of this ____ day of _____, 2019, 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, 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:

Kimley-Horn and Associates, Inc.

By: _____


Brian Good, P.E.

Print Name: _____



Title: _____

Principal

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

By: _____

Bob Solari, 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

EXHIBIT #1

Work Order Number 12

South Oslo Rd Membrane Treatment Plant

Degasifier/Scrubber Blower Replacement

PROJECT UNDERSTANDING

The existing degasifier blowers at the Oslo Road membrane water treatment plant are experiencing reliability issues with frequent fan blade replacement. The existing blower blades are constructed of coated steel and have experienced corrosion due to coating wear exposing the steel blade tips to the high concentration of hydrogen sulfide in the air stream. The corrosion of the blades has led to vibration issues that have consistently reduced the life of the blower bearings, motor bearings, and blower bases and Indian River County Utilities is interested in replacing the existing blowers with blowers that are equipped with FRP composite blades.

The scope of work consists of review of alternate blower types and manufacturers, preparing drawings and specifications for blower replacement, observation of installation, and witnessing start-up and testing of the new blowers. It is assumed that the blower capacities (air flow and horsepower) will not change. A FDEP permit is not anticipated to be required for the replacement of the blowers since it is considered maintenance and is therefore not included within the scope below.

SCOPE OF SERVICES

The following scope consists of blower replacement and implementation only at the South Oslo Rd water treatment plant, which consists of the following tasks.

Task 1 – Review Blower Types, Collect Information

Consultant will research other blower manufacturers with non-corrosive blower materials, such as all fiberglass blower materials and request quotes for cost comparisons to other type blowers.

Consultant will collect as-built information on the existing ductwork at Oslo Road membrane water treatment plant that will need to be modified. It is assumed that alternative blower manufacturers will not have matching inlet and outlet blower dimensions to the existing blowers and that modification of the existing FRP ductwork will be required. Consultant will review the blower configuration which will result in minimal ductwork modifications.

Consultant will perform one site visit to collect dimensional data of the existing blower(s) configuration.

Task 2 – Prepare Drawings and Specifications for Blower Replacement

Consultant will prepare drawings, consisting of a new blower configuration, and ductwork drawings that need to be modified. A blower plan, ductwork plan, and elevation of the blower area will be prepared. It is assumed that the basefiles developed under the original project will be used.

Consultant will prepare a sequencing plan to minimize impacts to operations, which will be used for implementation of the work. Photos may be used to depict necessary details. Modifications to the electrical power supply will be limited to conduit/wire replacement from disconnect to the blower motors. It is also assumed that blower motor sizes will not change. It is assumed that the electrical actuated dampers will not be modified. Consultant will prepare technical specifications for the new blowers and ductwork which need to be modified.

Consultant will provide six (6) copies of drawings and specifications to Indian River County Utilities (IRCU) staff for review and for bidding. Consultant will also provide copies in electronic (PDF – portable document format) form.

Task 3 – Bidding Phase

Consultant will prepare electronic copy of document for IRC purchasing department to be utilized and provide assistance during the bidding purposes.

IRC purchasing department will advertise and administer the procurement of the bidding and respond to potential bidder questions. The Consultant will respond to contractor questions, if required, which will be distributed to all the contract document holders by IRC purchasing department.

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

Task 4 – Construction Phase

Consultant will answer a reasonable number of requests for additional information and clarifications for the construction of this project. Consultant will respond in written format in a timely manner.

Consultant shall review shop drawings and submittals for their conformance with the design documents. Such review and approvals or other action will not extend to means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction or to related safety precautions and programs. It is assumed that up to four (4) submittals will be reviewed. Consultant will provide written comments and respond to IRCU/contractor within a reasonable time. Consultant will strive to complete the reviews within a ten (10) working days.

Consultant will provide on-site observation of blower installation. Assuming one (1) month construction duration for the blower installation, respectively, it is assumed that up

to four (4) half days of observation will be provided by a project engineer or field representative. Such visits and observations by Consultant are not intended to be exhaustive or to extend to every aspect of Contractor's work. Observations are to be limited to spot checking, selective measurement, and similar methods of general observation. Based on information obtained during such visits, Consultant will evaluate whether Contractor's work is generally proceeding in accordance with the Contract Documents, and Consultant will keep IRCU informed of the general progress of the Work.

Consultant will attend the preconstruction meeting.

Consultant will attend and witness a startup and operational testing of the blowers. Consultant will develop a punch-list of incomplete items based on our on-site observations and startup testing. Consultant will issue a written punch-list to Owner and contractor. Consultant will provide one (1) site visit to review follow up work on punchlist items.

Consultant will review contractor furnished operation and maintenance manuals (O&M) as required under the certification of completion. Consultant will review record information provide by contractor.

TIME SCHEDULE

Consultant will conduct Task 1 within 2 weeks and Task 2 within 4 – 6 weeks from notice to proceed. Bidding phase is assumed to take up to 4 – 6 weeks.

FEE SCHEDULE

We will provide these services in accordance with our extension and amendment of 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 Task 1 through Task 4 on a lump sum fee basis as follows:

Task No.	Task	Task Fee
Task 1	Review Blower Types, Collect Information	\$ 4,566
Task 2	Prepare Drawings and Specifications for Blower Replacement	\$ 11,175
Task 3	Bidding Phase	\$ 3,912
Task 4	Construction Phase	\$ 10,284
	Total Lump Sum Fee =	\$ 29,937

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:

- Permit application preparation
- Construction phase services beyond what is listed herein
- Record drawing collection and development

ESTIMATE FOR ENGINEERING SERVICES									
PROJECT: Degasifier Blower Replacement - South Oslo Rd. Membrane Treatment Plant								2/19/2019	
CLIENT: Indian River County Utilities									
ESTIMATOR: JRL (MDM Rev)									
DESCRIPTION:		DIRECT LABOR (MAN-HOURS)							
	Membrane Replacement, Condition Assessment, Preparation of Drawings & Bidding		SEN	REG PROF	DES/	CLK	EXP	Dir Exp	LINE
		PRINC	PROF	JL/FH	P2 (TS/NB)	P1	SUB		TOTAL
NO.	TASK								
1	Review Blower Types								
	Manufacturer Coordination		1	4	6			72	\$1,527
	Collect/review record information		1	4	10			93	\$1,968
	Site Visit - collect dimensional data			4	4			51	\$1,071
									\$4,566
2	Prepare Drawings								
	Prepare drawings (5)		2	16	40			352	\$7,402
	Specs for Blower and FRP Duct		2	8	8			124	\$2,614
	6 copies of final drawings			2	4	4		55	\$1,159
									\$11,175
3	Bidding Phase								
	Assist with advertisement		2	4		2		62	\$1,304
	Respond to contractor questions		2	4		2		62	\$1,304
	Evaluate bids and make recommendations for award		2	4		2		62	\$1,304
									\$3,912
4	Construction Phase								
	Preconstruction meeting			4	4			51	\$1,071
	Response to RAIs			2				15	\$315
	Shop Drawing Review			6	12			108	\$2,268
	Onsite Observations			4	16			114	\$2,394
	Witness Operational Testing		2	4	8			94	\$1,984
	Review of O&Ms			4				30	\$630
	Punchlist		1	6	4			77	\$1,622
									\$10,284
	TOTAL HOURS	0	15	80	116	10	0	\$1,422	\$29,937
	LABOR (\$/HOUR)	235	225	150	105	96		\$0	\$0
	SUBTOTAL	0	3375	12000	12180	960	0	\$28,515	\$0