COUNTY OF ROCKLAND
Department of General Services
Purchasing Division

Contract Award Notification

Title: **Pumps-Furnish & Deliver Submersible Non-Clog Pumps Cornell 6NHTA or approved equal**

Contract Period: July 27, 2021 through July 26, 2022 with 4 one-year options

Original Date of Issue: July 27, 2021

Date of Revision:

BID No: **RFB-RC-2021-061**

Catalog: **Wastewater Treatment**

Authorized Users: County Agencies, All Political Subdivisions

Address Inquires To:

Name: Ann Marie Curley, CPPB
Title: Purchaser II
Phone: 845-364-3698
Fax: 845-364-3809
E-mail: curleya@co.rockland.ny.us

Description
This contract is to furnish & deliver submersible Cornell 6NHTA non-clog pumps.

Contract #	Vendor Number	Contractor & Address	Telephone No.
Bid 21-061	0000020528	Koester Associates, Inc. 3101 Senaca Turnpike Canastota, NY 13032 Contact: Mark Koester / Kyle Buckles mark@koesterassociates.com / kbuckles@koesterassociates.com	315-697-3800 **FAX:** 315-697-3888

COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 2ND FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809

Vendor: Koester Associates

Item Number	Description	Estimated Qty.	Unit of Measure	Unit	Unit Price	Manufacturer	Product / Model Code or Part Number
1	**Bid Item #1 - Pumps shall be 6NHTA-Sub-100-4 Submersible as specified,** Cornell or approved equal	72064000033	1	EACH	$48,750.00	Cornell Pump	6NHTA
2	**Bid Item #2 - Pumps shall be 6NHTA-Sub-125-4 Submersible, as specified,** Cornell or approved equal	72064000035	1	EACH	$51,500.00	Cornell Pump	6NHTA

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PURCHASES BY OTHER

LOCAL GOVERNMENTS, SCHOOL DISTRICTS, AND NON PROFIT AGENCIES

As per the New York State General Municipal Law, all political subdivisions of New York State are allowed to make purchases through the resulting contract(s). As per Rockland County Procurement Policy, Non Profit Agencies approved to participate in New York State's Contract Extension Program are authorized to make purchases through the resulting contract(s).

1. The County of Rockland shall make all contract award information available to other political subdivisions and non profit agencies through our website: **www.rcpurchasing.com**
2. Any other political subdivision or Rockland County non profit agency will issue purchase orders directly to vendors within the specified contract period referencing the County's contract and shall be liable for any payments due on such purchase orders; and shall accept sole responsibility for any payment due.
3. All purchases shall be subject to audit and inspection by the other political subdivisions and Rockland County non profit agencies for which the purchase was made.
4. No officer, board or agency of a county, town, village, or school district shall make any purchase through the County when bids have been received for such purchase by such officer, board or agency, unless such purchase may be made upon the same terms, conditions and specifications at a lower price through the County.
5. All Bidders shall be on notice that as a condition of the award of a County contract, the successful bidder shall accept the award of a similar contract with any other political subdivision in New York State and Rockland County non profit agencies authorized to use New York State's contracts, if called upon to do so. A listing of approved Rockland County non profit agencies is available on the Purchasing Division's website at www.rcpurchasing.com. The County, however, will not be responsible for any debts incurred by the participants pursuant to this or any other agreement.
6. Necessary deviations from the County's specifications in the award of a participant contract, whether such deviations relate to quantities, or delivery points shall be resolved between the successful bidder and the other political subdivisions and Rockland County non profit agencies.

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SPECIFICATIONS

1. **SCOPE**

1.1. The scope of this bid is to furnish ~~and~~ deliver and provide startup supervision for Cornell 6NHTA submersible non-clog pumps or approved equal, on an as needed basis. All items are to be as specified and not require adaptors.

1.2. The Quantities listed are estimated, orders will be placed on an as needed basis.

1.3. The following equipment is required:

1.3.1. Bid Item #1 - Pumps shall be 6NHTA-Sub-100-4 Submersible.

1.3.2. Bid Item #2 - Pumps shall be 6NHTA-Sub-125-4 Submersible.

2. **PRICING**

2.1. Pricing submitted to include FOB Destination, Orangeburg, NY 10962.

2.2. Pricing shall be valid for a period of one (1) year with four (4) one (1) year options. Options to renew are based on mutual agreement between the County of Rockland and the Contractor.

2.2.1. Pricing shall include One (1) day installation assistance, start-up service and field testing.

3. **BRAND NAME**

3.1. The use of a brand name is for the purpose of describing a standard of quality, performance and characteristics desired and is not intended to limit or restrict competition.

4. **APPROVED EQUAL OR EQUIVALENT PRODUCTS**

4.1. If proposing an equivalent pump, bidder shall submit an item by item listing and explanation of any differences between their product specifications and performance and the specified model. Product and service warranties must be included with bid. Failure to comply with this requirement may deem your bid non-responsive.

4.1.1. Bidder shall show the proposed pump meets or exceeds with the:

4.1.1.1. Cornell – Performance Data Sheet – Separate Attachment

4.1.1.2. Performance Curves – Separate Attachment

4.1.1.3. Foundation Print – Separate Attachment

4.2. If bidders submit or bid for equivalent or approved equal products, they must submit manufacturer's product description and specifications. These specifications must include <u>all</u> functionality and parts of the specified model.

4.3. Bidders must list five entities currently using the proposed pump on the certification of experience page in the bid package. Proposed pump requiring adapters will not be acceptable.

4.4. Bidder must be able to demonstrate within one week after notice and guarantee in writing that the item bid is interconnectable with existing equipment.

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5. **GENERAL REQUIREMENTS** - Pumps shall be factory tested with certified performance report showing design head and flow, HP rating, and efficiency. Pump shall also be hydrostatically tested at 1.5 times the shutoff head for a minimum of 15 minutes.

5.1. CASING

5.1.1. The Pump casing shall be centerline discharge of back pullout design allowing for removal of rotating element. Casing shall have a Suction Cover to allow for inspection of impeller and wear rings without removing rotating element. Volute shall be reversible to allow for prolonged life. Casing shall be manufactured of close-grained ASTM A48 class 30 heavy-duty cast iron, free from blowholes or impurities. The volute case shall include a flat face flanged centerline discharge. A Stainless Steel Wear Ring hardened to 400-450bhn shall be pressed into case. Where the pump motor flange comes in contact with the volute there shall be an adapter plate or the volute shall have an indexed register to insure an accurate fit. Casings shall have ribs to handle high pressure and add strength to pump.

5.2. IMPELLER

5.2.1. Impeller shall be cast iron ASTM-A48, 2-vane non-clog enclosed type. Impeller shall have back vanes to reduce axial thrust and reduce the lower seal pressure. Internal vane edges shall be well rounded to present smooth flow and prevent sharp edges that may collect stringy material, Impeller shall have a straight non-tapered bore, be dynamically balanced, keyed to the shaft, and further secured with stainless steel washer and lock screw. A Stainless Steel Wear Ring hardened to 400-450 bhn. Impeller shall pass a minimum 3" diameter non-collapsible sphere. Impeller shall be fixed at location with no expected or required adjustment.

5.3. MOTOR

5.3.1. The motor shall be of, Submersible type with 50' cable and an epoxy sealed butt spliced connecting system. It shall be not less than (125- hp at 1800 rpm-Grandview)(100HP at 1800RPM-Mahwah). Motor supply power is 460 volt, 60 hertz, 3 phase. The motor bearings shall be selected to withstand thrust loads and have a minimum B-10 life of 100,000 hours. The motor bearings shall be prepacked and sealed for life with special high temperature grease. The motor shaft shall be high strength AISI 420 Stainless Steel. The maximum allowable no-load shaft run out shall be .003". Special treated Class AF@non-hydroscopic insulation with multiple dips and bakes shall be provided. Rotor shall be die cast aluminum and dynamically balanced to exceed NEMA limits per MG1 - 12.06. Each motor shall have its own two wire / two probe moisture-monitoring system. It is designed to constantly monitor oil chambers and stator housing for moisture. The pump motor seal must be a Tandem Mechanical shaft seal designed to work independent of each other and withstand up to 200 PSI. The outer and inner seal material shall be Silicon Carbide vs. Silicon Carbide. The motor will be of standard efficient design and have a 1.15 SF available. Motors shall also be FM. listed for Class I Div IGroups C & D hazardous locations. Motor suitable for 15 minutes in air. No Sewage jackets allowed for cooling purposes. Automatic reset, normally closed thermal overloads, shall be installed in adjacent phases of the motor winding to provide the overheating protection. Motors that require the pumped media or a cooling agent to be circulated, as part of the pump motor cooling system shall not be utilized.

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5.4. MOTOR SHAFT

5.4.1. Shall be one-piece high strength AISI 420 Stainless Steel. The shaft shall be accurately machined and polished to transmit full driver output without excessive flexure or stressing. All steps in the shaft shall be radiused to reduce stress concentrations. The shaft shall extend through both bearings with proper length to connect directly to pump impeller. Bearings shall be prelubricated at the factory and designed for a minimum B-10 life of 100,000 hours. Motor shaft bearings shall be locked to prevent shaft movement and to take high thrust loads. Shaft deflection shall not exceed .003 inch measured at the outer seal face when operating at specified design condition. A complete shaft stress analysis calculation shall be supplied by the pump manufacturer to illustrate conformance with this requirement. Alternate Shaft Materials such as 410 17-4 PH may be considered to meet shaft deflection and Bearing Life requirements.

5.5. MOTOR ENCLOSURES

5.5.1. Shall be cast iron, water-tight enclosures and shall be sealed by the use of Buna-N O-rings and shall have rabbit joints with a large overlap, or there shall be furnished an adapter plate to accomplish an accurate fit equal to an indexed register fit. Cast Iron shall be ASTM type A-48, Class 35 or equal. All external hardware including motor nameplates shall be made of Stainless Steel.

5.5.2. Motor rotor construction shall be die cast aluminum. Rotors on frames 210TY and above shall be keyed to shaft and rotating assembly dynamically balanced to NEMA limits per MG1-12.05.

5.5.3. All motors shall successfully operate under power supply variations per NEMA MG1-14.30. All Motors shall be NEMA Design B or A with torque and starting current in accordance with NEMA MG1-12. All motors not meeting these NEMA requirements shall not be acceptable. Motors shall have copper windings. Motor Insulation System shall be Class H nonhygroscopic insulation system. Entire wound stator assembly shall receive a minimum of 2 coats of varnish applied using a dip and bake process.

5.5.4. Electrical cable leads shall be 50 feet in length and joined to motor enclosure by use of an epoxy mold and blind-splice in the motor and bracket. The sealing method shall be approved by U.L. for a Class 1, Group C & D Division 1, hazardous location. The motor power leads, moisture detection and thermal detection cord shall have a primary sealing system which utilizes an epoxy compound with each cord conductor stripped back and a blind splice utilized to stop any possible moisture from leaking into the motor body. In addition to the blind splice each conductor shall be separated, and the epoxy compound shall flow completely around each conductor thus, causing a leak proof seal. Motors, which rely only on grommets and compression systems, will not be acceptable nor equal. Motors that utilize a grommet and epoxy compounds will not be considered acceptable nor equal. Motors which utilize a terminal board will not be considered acceptable nor equal. Motors shall be dual voltage and shall be supplied with a conductor sized to handle the lower of the two voltages specified. Motors which are single voltage and which are not field reconnectable will not be acceptable nor equal.

5.5.5. Lifting eyes shall be cast into the motor housing and shall be adequate strength to lift the entire pump and motor assembly.

5.5.6. All exposed motor parts shall receive an alkyd prime and epoxy ester finish. All Fasteners shall be 304 Stainless Steel.

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5.6. MOTOR SEALS

5.6.1. Two independently mounted mechanical face type seals shall be provided. The inner and outer seal shall be separated by an oil filled chamber. Double seal (back to back) configurations are not acceptable due to the potential of failure of both seals as a result of lodged solids. Similarly bellows-type and jacketed seal construction is also prohibited. A Silicon Carbide/ Silicon Carbide upper seal with Buna-N elastomers and a Silicon Carbide/Silicon Carbide lower seal with Buna-N elastomers shall be installed prior to pump shipment. The metal parts shall be 316 Stainless Steel. The outer seal assembly in conjunction with the backplate and impeller wiper vanes will be designed to allow solids and particles to be thrown away from the seal face.

5.6.2. Motors shall be constructed with a separate oil chamber which shall be used to detect moisture intrusion past the lower seal and give adequate warning of an impending inner seal failure. Motors that utilize moisture detection systems where a float is used or where the moisture probe is located in the stator housing will not be acceptable nor equal. Two moisture-sensing probes shall be used to detect any influx of conductive liquid past the outer seal and provide ample warning of first seal failure. The moisture probes shall be located in a separate oil chamber. All motors to include 2 normally closed automatic reset thermostats connected in series and embedded in adjoining phases.

5.6.3. Each motor shall receive a routine factory test per NEMA and IEEE standards.

5.6.4. The pump exterior ferrous metal surfaces shall be prepared in accordance with SSPC SP-6, Commercial Blast Cleaning. Primer coat shall be shop-applied Tnemec 69 epoxy applied as recommended by the manufacturer. Finish coat(s) shall be field-applied Tnemec 69 epoxy for a total system minimum thickness of 10 mdft. Finish color to be as specified by the district.

5.6.5. The new pumps shall be compatible with the existing Lift-out System and shall be able to fit within the hatch cover without disassembly of the lift out claw.

6. **AWARD**

6.1. Bid will be awarded to the lowest responsive responsible bidder whose proposal and proposed pump meets the stated requirements.

7. **DETAILED MI NIMUM SPECIFICATIONS – MANDATORY SUBMISSION - Failure to complete this section may deem your bid non-responsive. (SEE SEPARATE ATTACHMENT)**

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BIDDER'S NAME:

DETAILED MINIMUM SPECIFICATIONS		**BIDDER TO STATE COMPLY OR LIST ALTERNATE SPECIFICATIONS**
FOR CORNELL 6NHTA PUMPS		
BID ITEM #1 6NHTA – SUB-100-4 SUBMERSIBLE		
Design Capacity	1250 USGPM	
Design Capacity Head	150Ft	
Maximum Capacity	2300 USGPM	
Maximum Capacity Head	110.0 Ft	
Maximum Speed	1770 rpm	
Min. Efficiency Design Pt	77 %	
Min. Efficiency Maximum Pt.	82 %	
Min. Suction Size	6 inch	
Max Discharge Size	6 inch	
Pumpage Temp	Deg f	
Max. NPSHR @ design pt.	12 ft	
Max. NPSHR @ maximum pt.	18 ft	
Min. Shut Off Head	210 ft	
Max. Shut Off Head	220 ft	
Rotation (CW/CCW)	CW	
Max Driver HP	100	
Min. Solids Capability	3.0 inch	

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BIDDER'S NAME:

DETAILED MINIMUM SPECIFICATIONS		**BIDDER TO STATE COMPLY OR LIST ALTERNATE SPECIFICATIONS**
FOR CORNELL 6NHTA PUMPS		
BID ITEM #2 6NHTA-SUB-125-4 SUBMERSIBLE		
Design Capacity	1300 USGPM	
Design Capacity Head	180Ft	
Maximum Capacity	2300 USGPM	
Maximum Capacity Head	130.0 Ft	
Maximum Speed	1790 rpm	
Min. Efficiency Design Pt	77 %	
Min. Efficiency Maximum Pt.	82 %	
Min. Suction Size	6 inch	
Max Discharge Size	6 inch	
Pumpage Temp	Deg f	
Max. NPSHR @ design pt.	12 ft	
Max. NPSHR @ maximum pt.	18 ft	
Min. Shut Off Head	240 ft	
Max. Shut Off Head	250 ft	
Rotation (CW/CCW)	CW	
Max Driver HP	125	
Min. Solids Capability	3.0 inch	