INVITATION FOR BID # 19-33

COUNTY OF MONTGOMERY
PURCHASING DEPARTMENT
755 ROANOKE STREET, SUITE 2C
CHRISTIANSBURG, VA 24073-3179

DATE		BID OPENING DATE AND HOUR	SEALED BID
February 5, 2019		February 28, 2019 3:00PM	Yes

ADDRESS ALL INQUIRES AND CORRESPONDENCE TO:
Montgomery County Purchasing Department
755 Roanoke Street, Suite 2C
Christiansburg, VA 24073-3179
Heather M. Hall, C.P.M.
Telephone Number: (540) 382-5784
Fax Number: (540) 382-5783
e-mail address:
hallhm@montgomerycountyva.gov

SPECIAL INSTRUCTIONS

1. **Sealed Bid** responses should be returned in an envelope with the bid number and opening date indicated on the outside of the envelope.
2. Faxed responses to Sealed Bids cannot be sent directly to the Purchasing Department.
3. Responses must be submitted on this form and the attachment provided.
4. Responses should be signed below.
5. Responses will be received in the Montgomery County Purchasing Department, at the address listed above, until the bid opening date and hour or, if specified, the bid return date and hour shown above.
6. Contact the Purchasing Department for bid award information. Enclose a self-addressed stamped envelope if you wish to obtain price information.
7. DELIVERY IS F.O.B. DESTINATION UNLESS OTHERWISE NOTED BY MONTGOMERY COUNTY IN THE BODY OF THE BID.
8. Attachment A is incorporated by reference into this invitation for bid and any resulting contract.

COMMODITY: TRAILER MOUNTED SEWAGE SLUDGE DEWATERING DEVICE

NO	Description	Quantity	Unit	Unit Price	Extended Price
1.	Furnish and Install Trailer mounted sewage sludge dewatering device per attached specifications.	1	Lot	For	$_____

IN ACCORDANCE WITH THIS INVITATION FOR BID AND SUBJECT OT ALL TERMS AND CONDITIONS IMPOSED HERIN AND IN ATTACHMENTS, THE UNDERSIGNED OFFERS AND AGREES TO FURNISH THE ITEM(S) FOR THE PRICES OFFERED.

FULL LEGAL NAME (PRINT)		FEDERAL TAXPAYER NUMBER (ID#)	DELIVERY DATE
PURCHASE ORDER ADDRESS		PAYMENT ADDRESS	TERMS **NET 30**
CONTACT NAME/TITLE (PRINT)		SIGNATURE (INK)	DATE
E-MAIL ADDRESS	TELEPHONE NUMBER	TOLL FREE NUMBER	FAX NUMBER

TRAILER MOUNTED SEWAGE SLUDGE DEWATERING DEVICE

1. GENERAL

The intent of these specifications is to describe an electric trailer mounted sewage / waste activated sludge belt press or other dewatering device with automatic starting and operating capability of the latest current model that complies as advertised by brochure specifications without modification. Dewatering devices should meet all requirements listed in these specifications.

The equipment should meet all OSHA, DOT and all other applicable codes, regulations and requirements. All equipment should be new, unused and of latest current model. A minimum two-year full warranty period is required. It should be equipped with the following items as well as any and all other items standard to model provided. A brochure is required with your bid submittal

The Unit will be delivered to the Montgomery County Public Service Authority (Authority), Elliston-Lafayette Wastewater Treatment Plant, 5229 Enterprise Drive, Elliston, Virginia, 24087, complete in all respect, fully serviced, and ready for operation. Three (3) complete operation, parts, service, maintenance manual(s) for model provided should be furnished to the PSA Director, Montgomery County Public Service Authority, at time of delivery.

A delivery time after bid award should be specified.

2. SUBMITTAL

Submittal should include specification sheets showing all standard and optional accessories to be supplied, schematic wiring diagrams, and dimensional drawings.

3. SYSTEM DESCRIPTION

The electric trailer mounted belt press or other dewatering device specified in this section will be used to dewater sewage / waste activated sludge. Dewatering device should be fitted with a fully automatic priming system capable of repeated priming.

The dewatering device and accessories should be supplied by the same manufacturer and should be the manufacturer's standard production model. A list of two user contacts including contact names and telephone numbers should be provided with the bid submittal.

The dewatering unit should be mounted in a self-contained trailer with tires that can be towed on the road at 55 M.P.H. and should be wired for over the road usage, per applicable D.O.T. Standards. All hatches, doors, windows, pipe connections, wire connections should be configured so that the can be secured within the trailer for road travel.

4. TYPICAL OPERATING CONDITIONS (WASTE ACTIVATED SLUDGE)

Item	***Requirements***
Sludge Feed Rate	180 – 240 lbs. dry solids / hour
Sludge Feed Concentration	1 – 2%
Polymer Dosage	8 – 12 lbs. polymer / ton dry solids
pH	6.5 – 7.4 S.U.
Volatile Solids Content	65 – 75 %
Capture	93 – 95%
Final Cake	14 – 18%

5. ACCEPTABLE MANUFACTURERS

The belt press should be a MARK II 1000 Stainless Steel Belt Press as manufactured by OR-TEC, Cleveland, Ohio or APPROVED EQUAL.

6. EQUIPMENT

a) Belt Press

The belt press frame, trays, covers and guards should be constructed of stainless steel (304). Sludge is introduced on to an upwardly sloping belt with dams on three sides comprising a sludge feed box.

The sludge feed box should be sealed with polypropylene skirting to prevent leakage of the sludge from the feed box. The sludge first travels on a sloping belt where de-watering is to occur by gravity. Gravity de-watering is to be aided by a series of roll over ploughs and a dispersion roller. Sludge then travels through a pressing zone where the water is further removed by pressure. A doctor blade removes sludge from the belt by its scraping action against it. The belt continues on through a washing station where it is thoroughly cleaned prior to its returning to the de-watering zone.

All non-drive roller bearings are to be encased in bearing housings fastened to the main frame. The bearing housings are to be made from thermoplastic polymide composite with embedded steel coils or epoxy coated steel to provide strength. Stainless steel set screws are to locate the bearings on each end of the stainless steel shafts. Two (2) self-aligning drive roller bearings are to be provided and secured to the roller frame.

Belt is to be driven through a series of stainless steel and neoprene covered rolls by an adjustable variable speed drive adjusted by means of a variable controller.

The belt wash station should be equipped with a stainless steel spray bar containing stainless steel spray jets. The spray bar is fitted with an in-line stainless steel cleaning brushes and a clean out valve. The spray bar has a stainless steel hood and bottom tray with brushes to prevent overspray.

Wash water and pressate collection trays collect the wash water and pressate and deliver them to a drain. Collection trays are fabricated from stainless steel. The filtrate can be diverted for reuse.

Polymer dosing should be by an automated OR-TEC Blend polymer system or approved equal that should make up the polymer on an as needed basis. The polymer system should be provided by the belt press manufacturer. Batch polymer systems should not be acceptable. The polymer dosing system should be skid mounted on the belt press system.

The belt alignment should be controlled electromechanically. Sensors should be located on both sides of the belt. When the sensor detects lateral movement, a signal should be sent to an actuator that should position the tracking roller, correcting and maintaining the belt travel.

The belt press should be easily convertible into a thickener without requiring the removal of any rollers. Systems that cannot be converted easily and without the removal of a roller should not be acceptable.

The drive roller one (1), the horizontally adjustable roller one (1) the first pressure roller one (1), top return roller two (2) and the bottom return roller one (1) should be 6" diameter stub-end shaft rollers. The rollers should be constructed from Schedule 40 (0.237" wall thickness) steel tubing with stainless steel end walls and 2" stainless steel stub shafts. The rollers should be covered with 1/8" neoprene rubber to 70 shore hardness. The bearing housing should be corrosion resistant thermoplastic, fitted with two (2) self-aligning sealed bearings. Rated life is 100,000 hours.

The second pressure roller one (1) should be 5" diameter stub-end shaft rollers. The roller should be constructed from Schedule 40 (0.237" wall thickness) steel tubing with stainless steel end walls and 2" stainless steel stub shafts. The roller should be covered with 1/8" neoprene rubber to 70 shore hardness. The bearing housing should be corrosion resistant thermoplastic, fitted with two (2) self-aligning sealed bearings. Rated life is 100,000 hours.

The tracking rollers one (1) should be constructed from Schedule 40 (0.237" wall thickness) steel tubing with stainless steel end walls and 2" stainless steel stub shafts. The roller should be covered with 1/8" neoprene rubber to 70 shore hardness. The tracking roller is adjustable. The adjuster is positioned on the frame and fixed with stainless steel bolts. The bearing housing should be corrosion resistant thermoplastic, fitted with two (2) self-aligning sealed bearings with a minimum rated life of 100,000 hours.

The horizontal adjustable roller is to be adjustable by means of take up bearings. The bearings are to be adjusted by tightening/loosening a 7/8" stainless steel threaded rod. The bearing housing should be epoxy coated steel, fitted with two (2) self-aligning sealed bearings with a minimum rated life of 100,000 hours.

The rollers should be supported by 2.5" x 2.5" stainless steel.

The dewatering belt should be woven polyester with stainless steel joiners connected with stainless steel lacing.

Doctor blade should be machined U.H.M.W. bolted to a stainless steel frame. Balanced adjustable weights at both ends of the frame should be supported by adjustable steel brackets located on the machine frame.

Drive motor should be 1 horsepower (hp) motor helical worm gear-drive with standard speed of 5-25 rpm. It should have a. Gearbox should be shaft mounted on the drive roller with speed selection of 4 - 20 rpm, adjustable by a panel mounted VFD. Castings should be machined, dipped in zinc enriched primer (one coat, min. DFT 1 mil.), assembled, degreased, spray painted with second coat of stainless steel impregnated water based paint (min. DFT 1.5 mil.). Primer and paint should be by Haptic or approved equal.

The belt washing system is a self-cleaning, hand operated, 1-1/2" manifold system. It is manufactured from 304 stainless steel. Gravity drainage area of the dewatering cloth is sealed with polypropylene skirting.

All adjusters and fasteners should be stainless steel.

Two (2) rows of machined nylon plows positioned every 6" across the drainage zone should provide roll over of the sludge. One (1) 2" P.V.C. roller should gently squeeze the sludge during and after the plowing process to release additional water. The plows and rollers should be fitted to a stainless steel frame secured to the machine frame and configured to be easily removed.

b) Flocculation Tank

A minimum 30 gallon stainless steel flocculation tank should be fitted to the inlet of the belt press. Sludge enters at the bottom of the tank and discharges near the top onto the belt press. The flocculator mount should be minimum ¼" thick stainless steel. A 3" NPT drain line should be provided on tank bottom.

The flocculation tank should be mounted on the belt press skid. It should be factory piped and ready for operation. Tank over flow chute should allow sludge to flow on belt.

Flocculation tanks with variable speed mixers are essential to good flocculation and ease of operation by allowing the operator to adjust mixing energy instantly and without moving a polymer injection assembly on the inlet sludge line. Belt press systems without flocculation tanks with variable mixers therefore should not be acceptable.

c) Flocculator Inlet Chute

Inlet chute should receive flocculated sludge from the flocculation tank and fans out across nearly the entire width of the belt. Inlet chute should be fabricated from stainless steel and should be equipped with vanes or diverters.

d) Flocculator Mixer and Geardrive

The flocculator should be fitted with two (2) 4" reverse truss propellers. The propellers should be aluminum and the shaft is to be stainless steel. The flocculator should be powered by a variable speed 1/3 hp gear motor.

Flocculator should be vertically mounted with two (2) alternating left and right propellers. The stainless steel mixing shaft should be coupled to a helical worm inline geardrive. The 1/3 hp motor should be controlled by a panel mounted variable speed controller with speed range of 0-250 rpm.

The flocculator geardrive should be mounted on the flocculation tank and should be factory wired and ready for operation.

e) Sludge Pump

Sludge pump should be a Progressive Cavity type operating at 500 – 4,500 gph. The pump should be a one stage design employing a convoluted rotor operating in a similarly convoluted stator. The convolutions should be configured to form a cavity between the rotor and stator, which should progress from the pump's inlet to discharge port with the operation of the rotor. The fit between the rotor and stator at the point of contact should compress the stator material sufficiently to form a seal and to prevent leakage from the discharge back to the inlet end of the pumping chamber. The stator should be molded with a seal integral to the stator elastomer preventing the metal stator tube and the bonding agent from the elastomer from contacting the pumped liquid. Gaskets or "O" rings may not be used to form this seal. Stators for sludge pumps should have Buna elastomer. The sludge pump rotors should be constructed of 316 stainless steel and the sludge pump rotors should have a chromium nitride coating (Duktil) with a hardness of 1250 Vickers and minimum thickness of (.0108"). Hard chrome plating or ceramic coatings are not acceptable due to the ease at which this coating will crack and the lack of diffusion into the rotor base metal.

The rotor drive train should be warranted for three (3) years. Pump rotor should be driven through a positively sealed and lubricated pin joint. The pin joint should have replaceable bushings, constructed of air-hardened tool steel of 57-60 HRc, in the rotor head and coupling rod. The pin should be constructed of high speed steel, air hardened to 60-65 HRc. The joint should be grease lubricated with a high temperature (450° F), PTFE filled synthetic grease, covered with Buna N sleeve and positively sealed with hose clamps constructed of 304 stainless steel. A stainless steel shell should cover the rotor side universal joint assembly to protect the elastomer sleeve from being damaged by tramp metals or glass. The universal joints should carry a separate warranty of 10,000 operating hours. This warranty should be unconditional in regards to damage or wear.

The pump casing should have a 150-pound (ANSI B16.5) flanged connection at both the inlet and discharge ports. The suction and discharge casings should each be provided with a 3/8-inch (or larger) tap to permit installation of pressure instruments

Each pump should be provided with oil lubricated thrust and radial bearings, located in the gearmotor, designed for all loads imposed by the specified service.

Shaft should be sealed using a single internal mechanical seal. The shaft should be solid through the sealing area, but of a two part design which allows the rotating unit to be removed

from the pump without disassembly of the gearmotor bearings. Seal materials should be solid silicon carbide faces with 316 stainless steel metal parts and Viton elastomers.

Gear motors or gear reducers should be designed in accordance with AGMA 6019-E (Class II). Motors should be energy-efficient, three-phase 240 volt TEFC motors. Pumps that require adjustable speed drives (ASDs) should be constant torque type. For ASD-driven units, the pump supplier should be responsible for the provision of the fixed reduction between the motor and pump. The reduction ratio should be that required to operate the pump at its maximum operating speed when the motor is operating at its nominal rated full speed. ASD-driven units may be operated at up to 90 Hz the maximum speed.

Pump maximum operating speed should be 277 rpm. The pump should be close coupled to an adjustable gear reducer with a VFD ready motor and a 5 hp, TEFC 1750 RPM, 3 phase, 60 hz, 230/460 VAC. Motor should have class F insulation and will be protected from high temperature damage by PTC thermistors in each motor phase winding.

A temperature sensor in a stainless steel protection sleeve should be installed in the stator of the pump. This device should continuously monitor the temperature in the stator and switch off the pump in the event of a rise in the stator temperature. This should prevent the pump from dry-running. Thermistor controller should be factory mounted and wired in the control panel.

f) Polymer Dosing System

The polymer system frame should be constructed of 1/8" thick 316 polished stainless steel. All supports, nuts, bolts, washers and clamps used in construction and installation should be 316 stainless steel. The polymer system should be specifically manufactured for that sludge press and be the current model from the same manufacturer.

The dilution water inlet flow control valve should be manufactured from acrylic and manually adjustable flowrate of a 0-5 gpm.

Glycerin filled gauges are to be manufactured by the Valley Gauge Company or approved equal. The water and chemical pressure gauges should have a 100 psi maximum pressure rating gauge. The pressure gauge body clamps and ¼" NPT are to be 316 stainless steel. The chemical gauge is protected from direct contact with the chemical by a diaphragm type chemical seal. The diaphragm housing, upper and lower, and diaphragm are to be constructed of 316 stainless steel. The diaphragm is connected to the gauge by an armored, glycerin-filled, stainless steel capillary line

Tubing connections are to be Parker Hannifin A-LOK 316 stainless steel. The tubing should be Parker manufactured NSF-51 hose. The ½" O.D. tubing should have a maximum pressure rating of 90 psi and the 3/8" O.D. tubing has a maximum pressure rating of 125 psi.

Mixing Cell hose connections are to be glass filled polypropylene cam operated couplings with EPT gaskets. The hose should be Nalgene 980 braided 5/8" ID vinyl and has a working

pressure rating of 230 psi with an outer layer coating to protect against weathering and ultraviolet radiation.

Mixing cell caps should be Schedule 80. PVC. Clear PVC should be used for the mixing cell wall. A manifold inside the mixing vessel should be create a vortex for mixing and aging the polymer solution. The vessel capacity should be 0.8 gallons and tested to 60 psi.

Chemical feed should be a diaphragm metering pump capable of pumping 1.83 gallons per hour as manufactured by Pulsafeeder or approved equal. The electromagnetic drive mechanism pulsed by the control circuit should be connected to a diaphragm. When de-energized, the unit should return the diaphragm to pull more fluid into the pump head to repeats the cycle. The flow rate is controlled manually with a percent stroke dial and pump speed dial.

Parts that are in contact with the solution should be constructed of corrosion resistant glass-filled Polypropylene, PVC, SAN, Hypalon, Viton, Teflon, 316 stainless steel, PVDF, Ceramic and Alloy C.

The pump should be automatically controlled via 4-20 mA signal set at a ratio from 100% to 1%.

The in-line flow switch should be constructed of ryton. Port connections are ½" NPT. In the event of a low or no flow situation, the flow switch should shut off the metering pump.

The injector should be include a precisely machined PVC injection nozzle with ends to have ¼" threads that fit into the injection block.

A machined injection block constructed of PVC should be located after the flowmeter. The port connections are to be ½" NPT inlet, ½" NPT outlet, ¼" NPT chemical injection port, and ¼" NPT water pressure gauge connection.

The polymer dosing system should be mounted on the belt press skid and should be factory piped and wired and ready for operation.

g) Wash Water Pump

Pump should be a 2.0 hp motor at a maximum of 2,900 rpm high pressure centrifugal pump capable of delivering 13 gpm at 80 PSI. Inlet should be 1 1/4" female NPT and the outlet should be 1" female NPT.

The wash water pump should be mounted on the belt press skid and should be factory piped and wired and ready for operation.

h) Control Panel

The control panel should be a NEMA 12 enclosure and should contain all electrical controls, wires, starters, terminals, relays, overloads, VFDs, Programmable Logic Controller, fuses and labels required for operation of the belt press and ancillary equipment described herein.

The system should be fully operational in both manual and automatic modes. The system mode selector switch should allow the operator to select the desired mode. No other changes or programming by the operator should be required.

Programmable Logic Controller (PLC) should provide automatic sequenced equipment start up and shutdown. Start-up sequence should start the equipment in an ordered manner, turning on drive motors and pumps as required and preparing polymer solution for injection into the waste stream. During automatic mode operation the automatic belt tracking system, sludge cake monitoring system and emergency shutdown features should monitor and shutdown the entire system in the event of the failure or overloading of any circuit, motor or system. Shutdown sequence should remove all waste material from belt press and flush polymer dosing system leaving both clean and ready for the next operation period. Following the clean down phase a solenoid on the water line should shut off water supply to system. Automated shutdown sequence should require no operator intervention whatsoever.

The panel door should have the following switching and functional components mounted, wired and marked by suitably engraved labels.
a) Main Disconnect
b) HMI Controller color touchscreen. All controls should be clearly indicated on touchscreen and allow complete operator control in manual and automatic mode
c) E-Stop Mushroom Type pushbutton with reset pushbutton.

HMI Controller should be a combination HMI and PLC in one device. Controller should be 5.7" color screen, with 16 integrated inputs/ and 16 integrated outputs (sink or source). HMI controller should have the following features:
a) Controller should have the following communication interfaces - USB, serial link, and Ethernet
b) Controller should be capable of adding digital or analog I/O expansion modules at the rear of the Controller
c) The HMI Controllers should combine HMI and control functions in a single device and share the same screen and communication features and dimensions. The internal memory can be freely used by both the HMI function and the control function
d) The HMI Controller should be capable of being programmed using a USB Flash Drive. The flash drive should be able to be configured for program download or for data upload
e) The HMI and PLC contained in the HMI Controller should be capable of being programmed from one coordinated software package, and should be capable of being programmed via a single cable
f) The HMI controller features listed are designed for ease of operation, and maintenance. Control systems without HMI controllers which do not include all of the abilities and features listed will not be acceptable

The control panel emergency circuit should immediately shut down all equipment and a red fault light should come on under the following conditions. In addition PLC mounted LCD display shows message describing specific fault when general fault light is on. The fault should be retained in all listed conditions until reset with system fault reset pushbutton. The conditions are:

1. Pressing E-stop pushbutton on control panel
2. Pulling emergency pull cable surrounding belt press
3. Belt press limit switches being activated by belt tracking to a misaligned position
4. The unexpected de-energizing or overloading of any circuit within the control panel
5. The Sludge Cake Monitoring System being activated when there is no sludge discharge from belt press

The Sludge Cake Monitoring System monitors sludge cake production at set time intervals. The default time interval is 1 minute. This can be easily adjusted by the operator using the HMI Controller touchscreen. In the event the system does not detect sludge cake being produced the entire belt press system and ancillary equipment automatically stops and an alarm condition is activated. The PLC should display the following message "No sludge cake detected"

Control Description:

a. Local Mode:
    1. Turn system mode selector switch to Local.
    2. Operate each equipment item by start/stop pushbuttons.

b. Auto Mode: When the "Start" pushbutton is selected, an automatic program should sequentially:
    1. Start the washwater pump system and 5 seconds later start belt press drive.
    2. Start polymer feed pump and open belt wash water solenoid valve.
    3. After the belts are wetted and polymer solution is ready, start sludge pump.
    4. After a timed interval, start-up sludge conveyor/auger.
    5. Activate Sludge Monitoring System following successful start-up.

c. Auto Mode: When the "Stop" pushbutton is selected, an automatic program should s sequentially:
    1. Stop the sludge pump and polymer feed pump.
    2. Continue for an adjustable timed cycle to allow the belt to completely discharge the sludge cake, wash the belt and flush polymer unit.
    3. After a timed interval, stop the sludge conveyor/auger, the belt press drive and wash water pump system.

d. While dewatering equipment is in operation, the belt press control system should realign minor belt misalignment using an automatic belt tracking system.

PLC display messages:
SYSTEM IN MANUAL MODE
SYSTEM OPERATING IN AUTOMATIC MODE
AUTO SHUTDOWN SEQUENCE ACTIVATED
AUTO SHUTDOWN COMPLETE…PRESS SYSTEM ON TO BEGIN AGAIN
BELT MISALIGNMENT…CHECK BELT
VFD FAULT…CHECK ALL VFD'S
MOTOR OVERLOAD TRIPPED…CHECK ALL MOTOR STARTERS

NO SLUDGE DETECTED ON BELT
E-STOP ACTIVATED

The control panel should be mounted on the belt press skid and should be factory wired to all equipment on the skid and ready for operation. Belt press systems without the control panel mounted on the belt press skid or systems which require onsite installation and wiring of the control panel to other dewatering equipment should not be acceptable. Systems which require the use of more than one control panel should not be acceptable. Systems without HMI Controllers with touchscreens, automatic belt tracking or sludge cake monitoring, all of which ensure ease of operation, should not be considered.

i) Belt Tracking

Dewatering belt should include an automatically tracking system. The belt alignment should be controlled electromechanically using photoelectric non-contacting sensors. Sensors should be located on one side of the belt. When the sensor detects lateral movement, a signal should be sent to an actuator that should position the tracking roller, correcting and maintaining the belt travel. When no sensor is being called on belt is to return to the home position using home proximity switch. There should be two contacting kill switches on either side of the belt.

Belt should be moved by means of an electromechanical linear actuator.

System should be controlled by manufacturer supplied software in the PLC and housed in the control panel. Frequency, length and centering of actuator stroke should be adjustable using control panel mounted ATS controller.

j) Skid

All the above equipment should be mounted, piped and wired on an integral stainless steel skid. The entire system should be factory tested as a system prior to shipping to ensure the highest quality.

7. ENCLOSED TRAILER

The system is mounted in a dual axle Wells Cargo or equal trailer properly sized for on and off-road operations and provided with the following items:

a. Axle rated for 5000 pounds.
b. Three (3) inch pintle type hitch.
c. Two safety chains with spring loaded safety hooks.
d. DOT approved tail, side, brake and directional lights. Rear lights should be recessed. Standard 7-wire harness and connector should be provided.
e. Tongue jack with footplate rated at a minimum of 5000 pounds.
f. Rear stabilizer trailer jacks.
g. GVWR of 7000 pounds.
h. Tires should be ST225/R15 with 2540 pound load rating.
i. Insulated, washable interior and exterior walls.
j. Aluminum diamond plate on the inside floors and wheel wells.
k. One pair of lockable rear entry doors and one lockable curbside entry door.

l. Outside dimensions: 20' -6" L x 8' W x 7' - 5" H
m. Inside dimensions: 20' L x 7'-6" W x 6'-8" H
n. Two (2) 6' awnings.
o. Mechanical equipment should be wired, piped and illuminated by florescent lights.
p. Wall or ceiling mounted heater.
q. Finish (Prep): Acid Etched with white phosphorus, undercoated with panther 813 and two coats of primer.
r. Finish: Painted with two coats of high solid supreme acrylic automotive grate enamel and pinstriped.

Trailer should be shop primed and finish painted at the place of manufacturer. Materials Color should be medium blue with color sample provided with bid submission.

8. OPTIONAL EQUIPMENT

OPTION 1. SCREW AUGER

Auger housing should be a trough type. It should be constructed from 3/16" stainless steel. The auger should have removable stainless covers. The auger should a total of length be 34 feet.

The sludge inlet on the auger should be a 40" wide stainless steel hopper. The sludge discharge of the auger should be a 9" section extending down 4" from the end of the auger. The tube and discharge section should be constructed from stainless steel.

The auger flight should be a shaftless 9" diameter flight with full pitch. The flight should be constructed from epoxy coated hardened carbon steel. The flight should ride on a polypropylene liner.

Two supports should be provided to support the auger in a horizontal position. The supports should be constructed from ¼" stainless steel. The last 8' of the discharge end of the auger should be cantilevered. No supports from below or above should be required to support this section of the auger. This design allows room in area of the auger discharge for safe removal of sludge cake, reduces hazards for operators and reduces complications of supporting the discharge of the auger from above. Augers without a cantilevered discharge of at least 8' or augers that require additional supports onsite will not be considered.

Auger drive should be a constant speed gear reducer with a speed of 29 rpm and a 1 hp, TEFC, 750 rpm, 3/60/230 – 460 motor.

Control Panel mounted vitrual pushbutton start and HOA switching should be provided. The auger should be tied into the auto start-up and shutdown sequencing and emergency shutdown systems. An adjustable amp overload switch should be provided to stop the entire dewatering system during overload conditions and indicate an alarm condition at the control panel.

Auger should be provided with wiring run in conduit to point on the auger adjacent to a belt press skid mounted junction box for ease on onsite connection. All connectors and fasteners required should be provided.

OPTION 2. SLUDGE FLOWMETER:
Magnetic Meter designed for sludge flow with range of 0 – 200 gpm. LCD Current Flow/Total Flow Display mounted on the skid. Installed, mounted, piped and wired on skid between sludge pump and flocculation tank. Pipe size should be 3".

9. TESTING AND INSPECTION

i. Notify Owner in writing when the installation is complete and ready for testing and start up.

ii. Inspect components for proper installation, wiring and piping.

iii. After sludge is available, operate all components and check for proper operation. Make necessary adjustments.

10. TRAINING

Successful bidder will be required to provide a minimum of four (4) hours operation/maintenance instruction/guidance to designated Authority employees at time of delivery or as soon thereafter as is mutually agreeable between successful bidder and PSA Coordinator.

11. BID

a. State price of purchase.
b. List any exceptions to the bid specifications.
c. Delivery time must be met. If not able to deliver on time, a comparable electric trailer mounted sewage / waste activated sludge belt press unit will be provided to Montgomery County Public Service Authority at no charge.
d. List of authorized repair shops for the supplied unit, components and accessories.

END OF SPECIFICATION

ATTACHMENT A

TERMS AND CONDITIONS

GENERAL TERMS AND CONDITIONS

http://www.montgomerycountyva.gov/filestorage/16277/16344/16633/16661/IFB_terms_and_conditions.pdf

SPECIAL TERMS AND CONDITIONS

1. **AWARD OF CONTRACT**: Awards are made to the lowest responsive and responsible Bidder. Evaluation will be based on net prices. Unit prices, extensions and grand total must be shown. In case of arithmetic errors, the unit price will govern. If cash discount for prompt payment is offered, it must be clearly shown in the space provided. Discounts for prompt payment will not be considered in making awards. Montgomery County reserves the right to reject any and all bids in whole or in part, to waive any informality, and to delete items prior to making an award.
2. **AUDIT**: The Contractor hereby agrees to retain all books, records, and other documents relative to this contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. Montgomery County, its authorized agents, and/or State auditors shall have full access to and the right to examine any of said materials during said period.
3. **AVAILABILITY OF FUNDS**: It is understood and agreed between the parties herein that Montgomery County shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.
4. **CANCELLATION OF CONTRACT**: Montgomery County reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon 60 days written notice to the Contractor. In the event the initial contract period is for more than 12 months, the resulting contract may be terminated by either party, without penalty, after the initial 12 months of the contract period upon 60 days written notice to the other party. Any contract cancellation notice shall not relieve the Contractor of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.
5. **INDEPENDENT CONTRACTOR**: The contractor shall not be an employee of Montgomery County, but shall be an independent contractor.
   Nothing in this agreement shall be construed as authority for the contractor to make commitments which shall bind Montgomery County, or to otherwise act on behalf of Montgomery County, except as Montgomery County may expressly authorize in writing.
6. **INSURANCE**:
   By signing and submitting a bid under this solicitation, the Bidder certifies that if awarded the contract, it will have the following insurance coverages at the time the work commences. Additionally, it will maintain these during the entire term of the contract and that all insurance coverages will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.
   During the period of the contract, Montgomery County reserves the right to require the Contractor to furnish certificates of insurance for the coverage required.
   INSURANCE COVERAGES AND LIMITS REQUIRED:
   A. Worker's Compensation - Statutory requirements and benefits.
   B. Employers Liability - $100,000.00
   C. General Liability - $500,000.00 combined single limit. Montgomery County and the Commonwealth of Virginia shall be named as an additional insured with respect to goods/services being procured. This coverage is to include Premises/Operations Liability, Products and Completed Operations Coverage, Independent Contractor's Liability, Owner's and Contractor's Protective Liability and Personal Injury Liability.
   D. Automobile Liability - $500,000.00
   The contractor agrees to be responsible for, indemnify, defend and hold harmless Montgomery County, its officers, agents and employees from the payment of all sums of money by reason of any claim against them arising out of any and all occurrences resulting in bodily or mental injury or property damage that may happen to occur in connection with and during the performance of the contract, including but not limited to claims under the Worker's Compensation Act. The contractor agrees that it will, at all times, after the completion of the work, be responsible for, indemnify, defend and hold harmless Montgomery County, its officers, agents and employees from all liabilities resulting from bodily or mental injury or property damage directly or indirectly arising out of the performance or nonperformance of the contract.
7. **NEGOTIATION WITH THE LOWEST BIDDER**: Unless all bids are cancelled or rejected, Montgomery County reserves the right granted by Section 2.2-4318 of the Code of Virginia to negotiate with the lowest responsive, responsible bidder to obtain a contract price within the funds available to Montgomery County whenever such low bid exceeds Montgomery County's available funds. For the purpose of determining when such negotiations may take place, the term "available funds" shall mean those funds which were budgeted by Montgomery County for this contract prior to the issuance of the written Invitation for Bids. Negotiations with the low bidder may include both modifications of the bid price and the Scope of Work/Specifications to be performed. Montgomery County shall initiate such negotiations by written notice to the lowest responsive, responsible bidder that its bid exceeds the available funds and that Montgomery County wishes to negotiate a lower contract price. The times, places, and manner of negotiating shall be agreed to by Montgomery County and the lowest responsive, responsible bidder.
8. **MINORITY BUSINESS, WOMEN-OWNED BUSINESSES SUBCONTRACTING AND REPORTING**: Where it is practicable for any portion of the awarded contract to be subcontracted to other suppliers, the contractor is encouraged to offer such business to minority and/or women-owned businesses. Names of firms may be available from the buyer and/or from the Division of Purchases and Supply. When such business has been subcontracted to these firms and upon completion of the contract, the contractor agrees to furnish the purchasing office the following information: name of firm, phone number, total dollar amount subcontracted and type of product/service provided.
9. **WORK SITE DAMAGES**: Any damage to existing utilities, equipment or finished surfaces resulting from the performance of this contract shall be repaired to the Owner's satisfaction at the Contractor's expense.
10. **CONTRACTOR/SUBCONTRACTOR LICENSE REQUIREMENT**: By my signature on this solicitation, I certify that this firm/individual and/or subcontractor is properly licensed for providing the goods/services specified

    Contractor Name: _____ Subcontractor Name: _____

    License #: _____ Type: _____
11. **EXTRA CHARGES NOT ALLOWED**: The bid price shall be for complete installation ready for Montgomery County use, and shall include all applicable freight and installation charges; extra charges will not be allowed.
12. **INSPECTION OF JOB SITE:** My signature on this solicitation constitutes certification that I have inspected the job site and am aware of the conditions under which the work must be accomplished. Claims, as a result of failure to inspect the job site, will not be considered by Montgomery County.
13. **PRIME CONTRACTOR RESPONSIBILITIES**: The Contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that he may utilize, using his best skill and attention. Subcontractors who perform work under this contract shall be responsible to the prime Contractor. The Contractor agrees that he is as fully responsible for the acts and omissions of his subcontractors and of persons employed by them as he is for the acts and omissions of his own employees.

14. **SUBCONTRACTS**: No portion of the work shall be subcontracted without prior written consent of Montgomery County. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish Montgomery County the names, qualifications and experience of their proposed subcontractors. The Contractor shall, however, remain fully liable and responsible for the work to be done by his subcontractor(s) and shall assure compliance with all requirements of the contract.
15. **WARRANTY (COMMERCIAL)**: The Contractor agrees that the supplies or services furnished under any award resulting from this solicitation shall be covered by the most favorable commercial warranties the contractor gives any customer for such supplies or services and that the rights and remedies provided therein are in addition to and do not limit those available to Montgomery County by any other clause of this solicitation. A copy of this warranty must be furnished with the bid.