

Bid Ref No: 4.21
Date: July 10, 2014

**COUNTY OF MADISON
DIVISION OF PURCHASE
MADISON COUNTY OFFICE BUILDING
WAMPSVILLE, NEW YORK 13163**

COPY OF LEGAL ADVERTISEMENT

SLUDGE DEWATERING EQUIPMENT

Pursuant to Section 103 of the General Municipal Law, sealed Proposals for:

will be received at the Office of the Purchasing Agent, Madison County Office Building, 138
N. Court Street, Wampsville, NY 13163 until **10:00 AM (Local Time) on Thursday, July 10, 2014 .**

Specifications available at: www.madisoncounty.ny.gov .

Right reserved to reject any or all Bids.

A bid security in the form of a bid bond, certified check, bank cashier/teller/treasurer's check or cash, payable to the County of Madison, in the amount of \$500.00 shall accompany the bid.

REQUIRED FOR DEPARTMENT: Madison County Sewer District

DELIVERY TO: As specified

DATED: June 16, 2014

*Cindy Urtz
Purchasing Agent*

INVITATION

**SEALED PROPOSALS, SUBJECT TO THE CONDITION AS SHOWN
HEREIN, REQUESTED ON THE FOLLOWING ITEM FOR THE
DEPARTMENT AS MENTIONED, WITH THE DELIVERY TO
DESTINATION SHOWN. PROPOSAL SHALL INCLUDE ALL
CHARGES.**

THESE SHEETS SHOULD REMAIN INTACT

- - - DO NOT DETACH - - -

COUNTY OF MADISON
GENERAL CONDITIONS AND
INSTRUCTIONS TO BIDDERS

1. Original bids will be submitted in sealed envelopes at the Purchasing Department, Second Floor, Madison County Office Building, 138 N. Court Street, Wampsville, New York 13163 at **10:00 a.m. on Thursday, July 10, 2014.**
2. A copy of the Specifications and Form of Bid is available at: www.madisoncounty.ny.gov .
3. Any deviations from the foregoing Specifications must be itemized in detail to receive consideration. Any Bid containing deviations that are not noted and explained fully will not be considered a complete Bid. Madison County reserves the right to decide whether deviations from Madison County Specifications are equal.
4. The Contract for the purchase of the above Item(s) will be awarded by the Purchasing Agent to the lowest responsible Bidder. In cases where two or more responsible Bidders submit identical Bids as to price, the Purchasing Agent may award the Contract to any of such Bidders. **The Purchasing Agent may reject all Bids and re-advertise for new Bids.**
5. Guarantee supplied with Bid shall be the manufacturer's standard guarantee. Said guarantee shall not begin to take effect until the day of delivery.
6. Bidder must state location and availability of products, including available hours.

7. **PROPOSAL:**

No bid will be accepted from or Contract awarded to any person who is in arrears to the County of Madison upon debt or Contract or who is in default as surety or otherwise, upon any obligation to said County of Madison.

All proposals shall be made on the forms herein provided and in the manner stated. No additional or qualifying clauses shall be written in.

The successful bidder shall agree, upon award of the Contract not to assign or sublet his Contract or any interest therein without first obtaining the written consent of the County Purchasing Agent.

8. In case of default by the Bidder or Contractor, the County of Madison may procure the articles or services from other sources without notice and hold the Bidder or Contractor thereby responsible for any excess cost occasioned.

9. **PAYMENTS**

The County of Madison will pay the Bidder or Contractor the amount of his Bid upon the faithful performance of the Contract and upon the approval of the bills by the Board of Supervisors of the County of Madison. Partial payments for delivered items or quantities of a Bid may be made by the County upon presentation of properly executed claim voucher, unless otherwise stated herein by the County when the materials, supplies, equipment or service have been fully delivered or completed to the full satisfaction of the head of the County Department for which same is being furnished.

10. The Bidder, if awarded an Order or Contract, agrees to protect, defend, and save harmless the County against any demand for payments for the use of any patented material, process, article, or device, that may enter into the manufacture, construction or form a part of the work covered by either Order or Contract; and he further agrees to indemnify and save harmless the County from suits or actions of every nature and description brought against it, for or on account of any injuries or demands received or sustained by any group or parties, by or from any acts of the Contractor, his servants, or agents.
11. The General Code of the State of New York, and all Local Laws insofar as they apply to the Laws of the Competitive Bidding, Contracts, and Purchases, are made a part thereof.
12. Purchases by the County of Madison are not subject to any Federal, State or City Sales Tax. Exemption Certificates will be executed upon request when necessary form is furnished.
13. Price quoted shall be net, less all taxes and shall include delivery, all transportation and delivery charges prepaid to destination.
14. Cash or early payment discounts will not be considered in determining low Bidder.
15. Proposals must be submitted on the **ATTACHED ORIGINAL PROPOSAL FORMS** in a sealed envelope. The envelope shall be endorsed on Face with the name of the firm making the Proposal, the date of its presentation and the title for which the Proposal is made. Proposals at the option of the Bidder, may be mailed to the above address, but must be received by the time and date stipulated.
16. **BIDDERS PLEASE NOTE:** The words "OR EQUAL" shall be considered added to each Specification.
17. The Board reserves the right to require any Bidder to submit a sample either before or after the awarding of the Bid to ascertain whether or not the product will be suitable for the purpose for which it is to be used. Whenever a particular article has been specified by a manufacturer's designation, such designation is made as a general standard, and is not intended to restrict competitive bidding. Any other make may be offered if the product is equivalent to that mentioned as the standard. The Board shall be sole judge as to acceptable equivalency. Samples shall be submitted free of charge upon request and be identified with the Bidder's name and address.
18. Submission of a Proposal will be construed as indication that the Bidder is fully informed as to the materials satisfactorily to the full extent indicated on the PROPOSAL FORMS. His proposal shall include the furnishing of materials, as required, as well as delivery and other transit charges, including individual items placed on back order.
19. The Purchasing Agent reserves the right to award Bids on the basis of individual Items or on total sums of pages or groups, whichever will be for the benefit of the Board. Also, the Purchasing Agent reserves the right to increase or decrease the quantity of any item at the same unit price indicated by a Proposal at the time the Award is made.

CORPORATE COMPLIANCE

20. The County will conduct appropriate screening on all bids received to ensure and verify that the business/entity has not been sanctioned/excluded by Federal or State law enforcement, regulatory or licensing contractor. The County will also verify that entities and businesses that provide and/or perform services for the County have not been the subject of adverse governmental actions and/or excluded from the State or Federal healthcare programs. No bid will be accepted by the County from any business and/or entity who is sanctioned/excluded by Federal or State law enforcement, regulatory or licensing contractor. By signing and submitting this bid proposal, you are attesting to that fact that you and/or the entity, which you represent, have not been sanctioned nor excluded by and of the aforementioned entities.
21. The following five items will automatically render a Bid unacceptable to Madison County:
- A. Failure to sign Bid Proposal Page.
 - B. Failure to sign Non-Collusive Bidding Certificate.
 - C. Failure to include necessary Bid Deposit.
 - D. Failure to sign and notarize Certification of Compliance with the Iran Divestment Act
 - E. Failure to submit **ORIGINAL PROPOSAL FORMS**

It shall be fully understood that any deviations from the inclusion of the above Items will be grounds to see the Bid as non-compliant and will not be considered for Award.

22. Purchases under prices quoted in this Bid may be made by any political subdivision in Madison County, Subdivision dealing directly with the successful Bidder.
23. IT Purchases through Federal Schedule 70 – Pursuant to GML 103 (1-b) local governments can bypass the Usual bidding process for IT equipment. They are authorized to purchase information technology and Tele-Communications hardware, software and professional services through cooperative purchasing permissible pursuant to federal general services administration information technology schedule seventy.
24. Piggybacking on Other Government Contracts – Pursuant to GML 103 (16), local governments are allowed to “make purchases of apparatus, materials, equipment or supplies, or to contract for services related to the installation, maintenance or repair of apparatus, materials, equipment, and supplies, may make such purchases, or may contract for such services related to the installation, maintenance or repair of apparatus, materials, equipment, and supplies, as may be required by such county, political subdivision or district therein through the use of a contract let by the United States of America or any agency thereof, any state or any other county or political subdivision or district therein if such contract was let in a manner that constitutes competitive bidding consistent with state law and made available for use by other governmental entities.”
25. Purchases Through Other Federal Government Schedules – Pursuant to GML 104 (2) local governments can bypass the usual bidding process making purchases through other federal schedules as provided by the US General Services Administration.

26. **MATERIAL SAFETY DATA SHEETS:** The successful Bidder shall be responsible for the provision of the MSDS's to the County prior to introducing hazardous materials on to the site, assuring compliance before work is started and disseminating any information to the County employees concerning significant chemical hazards that the successful Bidder is bringing to the County's work place. The MSDS's will be maintained by the County as long as those materials are present. It is the responsibility of the successful Bidder to train its own employees.
27. Guaranteed delivery on all items bid must be within thirty (30) working days of orders placed with successful Bidder. If the Vendor fails to deliver all or part of the items ordered within the thirty (30) working day period, the Vendor shall reimburse the County an amount equal to the difference between the Bid Price and whatever cost the County incurs in acquiring the undelivered items from another source.
28. **QUANTITIES:** The annual quantities listed in the Proposal are estimated only, based on requirements filed with the Purchasing Department. The Contract, however, shall be for the quantities actually ordered during the Contract period. Items will be ordered on an "As Needed Basis".
29. The County Purchasing Agent reserves the right to award the bid in part or in total within 45 days of bid.
30. **INSURANCE**

When contracted work is required, at least two business days before execution of the Contract, the Contractor shall furnish necessary certification of any required insurance.
31. **Best Value Authority**

Pursuant to Local Law No. 5 of the year 2013, the Purchasing Agent may award purchase contracts, including contracts for service work, but excluding any purchase contracts necessary for the completion of a public works contract pursuant to Labor Law Article 8, on the basis of best value, as defined in State Finance 163, to a responsive and responsible bidder or offeror.
32. Contact Person: **Mr. Jim Cunningham, Madison County Sewer District Chief Operator
(315) 655-2261**

**MADISON COUNTY SEWER DISTRICT
SLUDGE DEWATERING EQUIPMENT
SPECIFICATIONS**

1.01 SCOPE OF WORK

- A. Single SUPPLIER: A single SUPPLIER shall be defined as a manufacturer responsible for supplying, installing, starting, optimizing, training and providing service of a complete package system that includes a belt filter press, and all support equipment and appurtenances required to make the sludge dewatering system a complete and fully operational system as specified herein. The SUPPLIER shall furnish all labor, materials, equipment and incidentals required to engineer, furnish and install, including removal of existing equipment, one complete belt filter press system for dewatering aerobically digested sludge as specified herein and in accordance with the Contract Documents. The SUPPLIER shall be responsible for a complete and integrated package including the following:
- a. One (1) complete 1.5 meter belt filter press dewatering system as specified herein. The system shall include the belt press, hydraulic unit, and all electrical control.
- B. The manufacturer shall supply one complete 3-belt, heavy duty, 1.5m meter belt filter press dewatering system as specified herein. The system shall include the press, hydraulic unit, all electrical controls, The belt press equipment specified in this section shall be provided by a single supplier to ensure coordination and compatibility of equipment.
- C. The belt filter press manufacturers are advised to familiarize themselves with the overall plant process in order to evaluate the compatibility of the manufacturer's equipment to dewater the particular sludge generated.
- D. The system shall consist of an independent gravity belt thickener and a continuous belt press. It shall be designed to receive aerobically digested municipal sludge, concentrate it and dewater the sludge by means of three belts of synthetic fiber mesh arranged to perform the conveying, pressing, and dewatering functions. The belt press, as described in this section, shall have no less than three distinct dewatering zones. The three zones shall be independent gravity drainage at operator level, curved wedge, and vertical pressure/shear sections.

1.02 DESCRIPTION OF SYSTEM AND PERFORMANCE CRITERIA

- A. Belt Press Operational Requirements: The belt press shall meet the following operating parameters when processing the sludge specified.

Sludge Specifications:

1. The sludge shall be derived from an aerobically digested municipal sludge
with an average consistency of 1% to 2% by weight dry solids.

Belt Press Performance Specifications:

1. The belt filter press shall be capable of dewatering 30 to 200 GPM of sludge at 1% feed solids concentration. The press shall be capable of processing up to 2,000 pounds per hour of solids.
2. The belt filter press shall produce a filter cake with a minimum dry solids content of 18% at 1,250 #/hour and 15% at 2,000 #/hour.
3. The belt filter press will be required to meet the above performance specifications by only using polymer as a conditioning agent. The polymer dosage shall not exceed 20 pound of active polymer per dry ton. No bulking agents are permitted.

B. Process Performance Test and Guarantee

Once a representative sludge has been established, the manufacturer shall operate the press against the design parameters. Representative samples of feed sludge, sludge cake, and filtrate shall be drawn to determine compliance. Should the press fail to meet the minimum standards specified, the following shall occur:

1. Plant operating procedures shall be reviewed to determine that the sludge is in fact representative of normal operation and within design specifications.
2. If it is determined that the sludge is representative and within these specifications, the manufacturer shall make any modifications necessary to accomplish the specified performance levels.
3. If the sludge can be demonstrated as representative and within specified parameters and if the manufacturer cannot meet the performance, the owner may elect to have the manufacturer remove the press and refund any monies paid for the equipment.

1.03 QUALIFICATIONS

- A. The belt filter press equipment shall be furnished by a single supplier who has a minimum of 10 years experience in the supply of complete sludge dewatering equipment of the exact 3 belt model and 1.5m size unit. The supplier must be a company that specializes in the sales and service of dewatering equipment. The supplier shall have built a minimum of 10 3-belt units over the past 10 years, with 10 supporting favorable references for the Owner's approval.

The equipment shall be designed, constructed and installed in accordance with the best practices and methods. The belt filter press supplier must be capable of supplying emergency service within 24 hours notice.

- B. The belt press manufacturer shall supply the original manufacturer part numbers for all buy-out items in the O&M manual and shall list all of the local suppliers to the owner.
- C. These specifications describe equipment of a specific manufacturer and are not designed to limit competition. They are intended to describe a level of quality and process capability. There are certain areas affecting process functions, operation and maintenance reliability under which no exceptions shall be allowed. These are as follows:

- High Strength Tubular Steel Construction
- Up-flow high solids across the full width of the press
- Independent Variable Speed Gravity Drainage Section
- Vertical Pressure Section
- Drive Motors on Pressure Section
- Machined Bearing Pads
- Double Flange Roll Construction
- 70 PLI Self-Compensating Hydraulic Tensioning System
- Hot-Dipped Galvanized Corrosion Protection System per ASTM 123

The balance of this specification shall determine the quality level under which equipment shall be reviewed.

- D. Should equipment which differs from the specifications be offered and determined to be equal to that specified, such equipment will be acceptable only on the basis that any revisions in the engineering, design and/or construction of the structure, piping, appurtenant equipment, electrical work, etc., required to accommodate such a substitution, shall be made at no additional cost to the owner.
- E. The system described herein establishes a standard of required type, function and quality to be met. The submittal shall include a complete equipment submittal including room layout drawings, electrical drawings, equipment design calculation, component catalog cuts, contact list and performance guarantee. All exceptions shall be clearly identified by the manufacturer with a cost to supply the component specified. Any exceptions not identified will lead to immediate rejection of the submittal by Madison County Sewer District. Madison County Sewer District reserve the right to reject any and all alternate requests based upon on their review.

- F. The manufacturer shall have an officer of the company visit the existing dewatering room two weeks prior to submitting their equipment bid to insure that their unit will fit in the existing room and meet the desired performance. The belt press manufacturer shall submit room layout drawing and electrical drawings based on the existing dimension as part of their submittal package.
- G. The owner reserves the right to reject any or all bids based on the qualifications listed above and the detailed specification listed below.

1.04 WARRANTY

- A. The manufacturer shall warrant, in writing, that all equipment supplied by them shall be free from defects in material and workmanship, for a period of twelve (12) months from the date of start up.

1.05 SUBMITTALS

- A. The supplier shall submit a complete list of equipment and materials required for shop drawing or submittal approval. The term "shop drawing" as used herein shall be understood to include detailed arrangement drawings, foundation layout drawings, control drawings, hydraulic controls systems, catalog sheets and similar items. Unless otherwise required, these drawings shall be submitted in sufficient time to be reviewed by the Madison County Sewer District.
- B. The manufacturer shall submit all design calculations for the frame, rollers, and roller bearings as specified. All calculations shall be stamped by a professional engineer from New York State.
- C. The manufacturer shall furnish five copies of shop drawings in three ring binders. Submitted packages shall include a complete bill of materials for all equipment, recommended spare parts list, list of any deviations from the contract documents and a statement of machine warranties

PART 2 BELT PRESS SPECIFICATIONS

2.01 GENERAL

- A. The equipment covered by these specifications is intended to be belt filter press dewatering equipment of proven ability as manufactured by reputable concerns having long term experience in the production of such equipment. The equipment shall be designed and constructed in accordance with the best practice and methods.
- B. All components of the sludge dewatering equipment shall be engineered for long

continuous and uninterrupted service. Provisions shall be made for easy lubrication, adjustment, or replacement of all parts. Corresponding parts of multiple units shall be interchangeable. Except as otherwise specified, steel plates and shapes shall have a minimum thickness of $\frac{1}{4}$ " and bolts shall have a minimum diameter of $\frac{1}{2}$ ".

- C. All welding shall be in accordance with the latest acceptable codes of the American Welding Society ANSI/AWS D1.1.
- D. All material used in the construction of the sludge dewatering equipment shall be of the best quality and entirely suitable in every respect for the service required. All structural steel shall conform to the ASTM standard specification for structural steel, designation A500. All iron casting shall conform to the ASTM standard specification for gray iron casting, designation A48-76, and shall be of a class suitable for the purpose intended. Other materials shall conform to ASTM specifications where such specifications exist; the use of such material shall be based on continuous and successful use under the similar conditions of service.
- E. Unless otherwise specified herein, all metal parts in contact with polyelectrolyte or sludge shall be type 304l stainless steel. All fasteners, pins, and anchor bolts shall be type 304l stainless steel.
- F. All fiberglass-reinforced plastics (FRP) shall be manufactured in conformance with NBS standards PS15-69.
- G. All manufactured components of the press include the press frame, rollers and control panel must be made in the USA at the plants manufacturing facility. Outsourced components will not be accepted.

2.02 SURFACE PROTECTION

- A. Main Frame ferrous metals shall be hot-dipped galvanized per the latest revision of ASTM A123 specification. Flame sprayed galvanizing will not be allowed.
- B. All pre-painted purchased equipment such as electrical motors, cylinders, gear boxes, etc., are to be painted with a final coat of the below system. All miscellaneous steel items will be sandblasted and covered with the following paint system:
 - 1. First coat of Tnemec #66 epoxy of contrasting color to a minimum of four (4) dry mils thickness.
 - 2. Apply a second coat of Urethane, finished color, minimum of four (4) mils thickness. Total thickness of the two (2) coats will be a minimum of eight (8) mils dry.

- C. The control panel enclosure shall be Nema 4 X constructed of type 304 stainless steel. The inside of the control panel box shall be white.

2.03 BELT PRESS

A. Main Structural Frame

1. The frame shall be fabricated from tubular structural steel members designed to adequately support all components and accessories. Steel shall meet the requirements of ASTM A500 structural tubing; all welding shall be performed in accordance with ANSI/AWS D1.1. Where frame components are bolted, stainless steel fasteners shall be used. The frame moment of inertia shall be a minimum of 44 in.⁴ in the xx axis and 15 in.⁴ in the yy axis.
2. The fabricated steel frame shall be designed to withstand the maximum stresses imposed on the individual members with a safety factor of 10. Specifically, the maximum actual stress on any member, connection, plate, etc., shall not exceed 1/10 of the yield strength of the frame material used. The deflection ratio of any structural member shall not exceed L/600 where L is the member span. The tension used for the calculations shall be at least 70 lbs. per linear inch of actual belt width.
3. Drip pans shall be fabricated of a minimum 14-gauge type 304l stainless steel and shall collect filtrate from all gravity and pressure sections.
4. The framework shall be constructed in such a manner that it will insure absolute plane parallelism of all rolling elements by machined bearing pads.
5. The framework shall be of welded and/or bolted construction. No disassembled component, excluding the belt filter frame, shall weigh more than 3500 lbs.
6. Provide adjustable leakage seals to contain the sludge on the belt through the gravity drainage zone. Seals shall be 304 stainless steel with rubber skirts, designed to provide an effective seal without causing wear to the belt.

B. Flocculation/Conditioning System

To achieve rapid contact between sludge particles and a solution of dilute polyelectrolyte, provide:

1. A static, in-line, adjustable energy non-clogging Venturi mixer shall be provided. The mixer shall be equipped with a Vortex polymer injection ring with four (4) tangentially mounted polymer injectors. The mixer shall be located upstream of the belt filter press. The belt filter press manufacturer shall recommend the proper layout of the system. The contractor shall

provide spool pieces of the size and number shown on the drawings at alternate locations. The in-line Venturi mixer shall be fabricated entirely of 316L stainless steel with an adjustable open throat area. The mixer shall include a removable side plate for inspection and maintenance.

2. An up-flow feedbox shall be provided after the Venturi mixer to insure optimum sludge conditioning. This feedbox shall be vertically baffled and discharged into a stainless steel distributor. The feedbox assembly shall extend across the full width of the belt press and be fabricated of type 304 Stainless Steel.

C. Independent Gravity Drainage Area

1. The press shall be furnished with an independent gravity drainage area consisting of a variable speed belt designed to contain and drain conditioned sludge. The inlet distributor shall be utilized to evenly distribute the conditioned sludge over the face of the moving filter belt. The feed distributor must form a uniform slurry depth over the full belt width immediately upon leaving the feed distributor of plus or minus 1/16 inch. The belt system shall be sealed to prevent leakage and shall be easily accessible for operating, viewing, cleaning, and adjusting.
2. All materials in contact with the sludge in the distributor area shall be 304L stainless steel with adjustable angle furrowing plows of UHMW plastic.
3. The gravity belt thickener shall have a minimum horizontal area of 38 ft². The gravity drainage section shall be supported by slide strips. Supports shall be designed to prevent deflections greater than 0.05 inches with a loading of 100 lbs. per square foot. Slide strips shall be constructed of a minimum ¼" x 3" 304L stainless steel. UHMW Slide strips shall be mounted to the deck support and shall be easily removable without disassembly of any components.
4. The belt support shall be a series of UHMW wear strips within a 304 stainless frame. The strips shall be every 6" and be of a design to not only to provide support but also enhance gravity dewatering.
5. Provide adjustable leakage seals to contain the sludge on the belt through the gravity drainage zone. Seals shall be neoprene rubber with 304SS deckle supports, designed to provide an effective seal without causing wear to the belt.
6. Six rows of swing up type furrowing plow devices shall be supplied in the gravity drainage section and shall be readily removable.
7. The adjustable plows shall be mounted on a support system that can be

raised for cleaning via lifting handles.

8. Plows will be high-density polyethylene with hot dipped galvanized support holders. Plow position will be adjustable from 0 to 30 degrees with respect to the direction of belt travel. All plows will be adjustable in unison for each plow row. To facilitate cleaning, each row of plows will include a single-lifting handle, designed to raise the entire row of plows at least six inches from the belt.
9. The independent gravity unit shall be equipped with a variable speed VFD drive, powered and controlled from the main press panel.
10. The gravity section provided shall incorporate an independent belt speed at operator level without the use of catwalks or rolling ladders for operating or maintaining. The gravity belt height shall not exceed four feet. All other designs will not be accepted.
11. The independent gravity section shall be provided with hydraulic tension and tracking system as specified in this specification. Manual tensioning or tracking systems will not be acceptable.

D. Curved Wedge Section

1. The belt filter press shall be furnished with a distribution chute to receive sludge from the primary gravity dewatering section for purposes of even distribution of the sludge to the wedge section.
2. The wedge section shall be of a curved belt path design, straight belt path designs will not be allowed. The initial radius of curvature shall be a minimum of 24-inch radius. The wedge section design shall provide gradual cake pressure through the zone to enhance dewatering.
3. Movement through the wedge section shall be designed to insure a uniform layer of sludge across the entire working width of the belt. It further shall be adjustable to allow operator determination of proper relationship between belt speed and cake height, in order to insure optimum dewatering.
4. The materials in contact with the sludge shall be fabricated from type 304L stainless steel. All fasteners, along with mounting and adjustment hardware shall be 304L stainless steel.
5. The use of vacuum assisted drainage sections is not acceptable.
6. The wedge section shall consist of a wedge that allows for a gradual pressure increase on both belts to enhance dewatering. The wedge section shall be supported by construction equal to that of the gravity belt section, shall be a

minimum of 2" wider than the width of the belt and so designed to reduce belt wear.

7. The wedge section shall have a minimum horizontal area of 30 ft². This calculation is based on only one belt.
8. The wedge zone shall incorporate a 304 stainless steel drip pan that eliminates the filtrate from dropping on the return belt.

E. Vertical Pressure Zone

1. The vertical belt filter press shall be furnished with a pressure zone following the wedge section drainage area.
2. The pressure section shall become uniform at the tangent of the first low pressure, 304L stainless steel, perforated drainage roll.
3. The next stage of the pressure zone shall consist of an arrangement of a minimum of five (5) rollers developing a continued 200° S-shaped belt travel.
4. The decreasing roll diameter is to provide an increasing pressure profile in the pressure zone, made adjustable by changing the belt tension.
5. The final roller in the pressure section shall be a 10" diameter drive roll forming the last 200° turn.
6. The minimum bearing size in the press section shall be 2-7/16" in diameter and the ends of each shaft on the rollers shall be equipped with support bearings as specified under bearings.
7. The pressure section shall have a minimum area of 90 ft². This calculation is based on one belt in contact with the roll surface.
8. The vertical pressure zone configuration shall include a tray beneath each roll such that the filtrate is removed from the sludge cake without rewetting of the down stream cake. Each drip pan shall be directed to a final collection pan and piped to the sump area. The collection pans must eliminate filtrate from landing on the returning belt.

F. Dewatering Belts

1. Belts shall be seamed and fabricated of monofilament polyester, wear resistant plastic material or combination monofilament polyester and stainless steel material. The mesh design shall be selected for optimum dewatering of the sludge to be processed with a minimum blinding of the filter fabric.

2. Belt selection shall be based on the manufacturer's experience obtained at other installations dewatering similar sludge with similar polyelectrolyte conditioning chemicals.
3. The belts shall be warranted for 2,000 hours operation. Any belt that fails before that time, provided that the belt press has been operated per the instructions in the operation and maintenance manual, will be replaced.
4. Each belt and connecting splice shall be designed for a minimum tensile strength equal to five times the normal maximum dynamic tension to which the belt shall be subjected. The splice shall be designed to fail before the belt.
5. Belt shall be designed for ease of replacement with a minimum of belt filter downtime. Belt replacement shall be such that disassembly is not required.

G. Belt Wash System

1. Each filter belt shall be washed by a belt wash station. The belt wash system shall use high-pressure water spray nozzles equipped with manually operated wire brushes for internal nozzle cleaning. The spray assembly shall be housed in an enclosure in a manner that limits the spray pattern within the housing assembly. The housing and nozzle assembly shall be readily removable. The housing shall be fabricated from type 304l stainless steel.
2. The housing shall be sealed against the belt with rubber seals. The belt shall be protected from excessive wear by the edges of the wash station housing by replaceable guide surfaces. The belt wash station shall extend over the full width of the filter belt by a minimum of 2 inches.
3. Wash water required shall not exceed 75 GPM at 120 psig. The manufacturer shall provide a complete pressure boosting system for the press to achieve the above pressure.
4. Each shower header shall be supplied through a globe valve for throttling by the manufacturer.

H. Belt Aligning System

1. The belt aligning devices shall be hydraulically operated to align each belt and locate it centrally on the rollers by means of a sensing arm, which detects the position of the belt edge. This arm shall operate a pilot valve, which in turn affects the position of the hydraulic actuator. The actuator shall be connected to a pivot belt-aligning roller, causing this roller to skew from its traverse position.

2. The alignment system shall function as a continuous automatic belt guidance system and shall be an integral part of the press. The alignment system shall operate with smooth and slow motions resulting in a minimum of belt travel from side to side. The use of electric servos shall not be acceptable.
 3. Backup limit switches for the belt aligning system shall be provided on the machine with sufficient contacts to de-energize all drives and sound an alarm in case of a belt over travel.
 4. A complete hydraulic system shall be provided. This package shall include pump, 2 hp TEFC motor, valves, 20-gallon 304 stainless steel storage reservoir, all controls and piping as necessary to provide a complete and operating system. The pump shall be an adjustable flow and adjustable pressure vane pump. The unit shall include a low-pressure switch, system pressure gauge, temperature gauge, and tank level gauge. The system shall include a high-pressure line filter and low-pressure return filter. The hydraulic unit will be floor mounted away from the press to eliminate wash down spray. The manufacturer shall supply a minimum of 3/4" hydraulic hose from the hydraulic unit to the press.
 5. The hydraulic unit shall be supplied with a 304l stainless steel support stand to allow for the tank oil to be easily drained. The tank shall also include a 304l stainless steel drain valve to allow for draining to the hydraulic oil.
 6. All hydraulic lines and fittings shall be 316l stainless steel and be rigidly supported on the structural frame and be properly sized for the intended use with adequate factors of safety for the rated pressure.
 7. All belt alignment control equipment shall be fabricated from corrosion resistant materials or effectively coated not to rust or stain.
 8. All hydraulic cylinders shall be constructed of 316 stainless steel rods and 316 stainless steel hardware.
- I. Belt Tensioning System
1. Each belt shall be provided with a belt tensioning system. The belt tensioning system shall be hydraulically actuated. The design of the tensioning system shall be such that the dewatering pressure is directly proportional to belt tension and that adjustments in the tension shall result in immediate changes in dewatering pressure. Manual or electric servo tensioning systems are not acceptable.
 2. Each belt tensioning shall be furnished with an individual control station such that independent adjustment for each belt is possible. The control stations shall incorporate an on/off selector, calibrated pressure regulating valve and

3. a pressure gauge to indicate actual operating pressure on each system.
3. The design of the belt tensioning system shall insure parallel movement of the tensioning cylinders. The gravity belt tensioning roller shall be mounted on a rugged yoke assembly, with hydraulic cylinders at each end. The pressure section tensioning section shall have a stainless steel rack and pinion tensioning system with hydraulic cylinders at each end. Plastic components will not be accepted. The belt tensioning system shall accommodate a minimum of 2.5% increase in belt length.
4. Sensing devices shall be furnished to determine belt travel beyond normal operating limits. The sensing devices shall be electrically connected within the alarm system to cause "an alarm shut down". Manual reset shall be required.

J. Press Drives

1. The two belt drives shall be 2 HP and *Dual, 3 HP* respectively for the gravity and press sections. Each shall be variable speed with a variable frequency AC drive unit. The feedbox paddle wheel shall be driven by 1/3 HP AC/VFD drive. Speed indicator readout for each shall be installed in the main press control panel.
4. The gravity belt drive shall be capable of varying output speed from 8 to 75 feet per minute and the press section drive, 3 to 30 ft. per minute.
3. The nominal input horsepower rating of each gear or speed reducer shall be at least equal to the nameplate horsepower of the drive motor. Each drive unit shall be designed for 24 hour continuous service.
4. Each gear reducer shall be totally enclosed, water spray proof, oil lubricated with anti-friction bearings throughout. All motors shall be TEFC.
5. The drives shall be furnished with provisions for use on 208 volt, 60 hertz, 3-phase power supply.
6. The belt drive for the pressure section shall be driven by a single roller. The gearbox shall be shaft mounted. Spur gears or chain driven rollers shall not be acceptable.

K. Safety Guards

All equipment having exposed moving parts such as fans, V-belts, gears, couplings, chains, and including the pressure roll section, shall be provided with safety guards as required by OSHA standards.

L. Discharge Blades

1. Discharge blades shall be provided to scrape dewatered sludge from the belt at the final discharge rollers. The doctor blade shall be made of wear resistant UHMW plastic. The blades shall be readily removable. The blade holders shall be secured in place by means of counterweights. Spring tension type fasteners are not acceptable.
2. The minimum discharge height shall be 6'6" high. The belt press shall discharge into a screw conveyor for truck loading. Belt presses that do not meet this discharge height requirement will not be accepted. Belt presses that need to be elevated to meet this requirement must be supplied with stainless steel catwalks down both sides of the gravity zone at operator level for viewing the gravity zone. The platforms and stairs must be 3' wide with aluminum grating and must meet all OSHA requirements.

M. Bearings

1. The shafts of all rollers shall be equipped with heavy-duty grease-able type, self-aligning roller bearings in sealed, splash proof split case housings. All bearings shall be double roller spherical bearings. The housings shall allow the changing of the bearings without changes in the factory alignment of the roller. The housing shall be sealed to provide adequate sealing from moisture and grime. The outside of the housing on roller bearings shall also incorporate a closed end cap. The bearing housing seal shall incorporate a drop in triple lip, nitrile seal mechanism to eliminate contamination. All bearings and housings shall be standard off the shelf components that can be purchased locally without having to purchase them from the belt press manufacturer.
2. All bearings shall have a minimum B-10 bearing life of 1,000,000 hours based on ANSI-B13.6-1972. The B-10 bearing life of 1,000,000 hours shall be based on the maximum summation of all forces applied to the bearing. The forces shall include both belts at a belt tension of 70 PLI each, maximum belt speed of 15 ft/min and torque of the drive motor.
3. Bearings and housings shall be US manufactured and shall be manufactured by FMC Corporation, Link-Belt Division, Indianapolis, Indiana; Reliance Electric Company, Dodge Division, Greenville, South Carolina: or equal.
4. All bearings shall be manufactured and supplied with off the shelf bearings and housings from the above manufacturers with original part numbers. Any manufacturers that supply only their belt press manufacturer part number, provide custom bearing manufacturing, or manufacture the bearing housing will not be considered.

N. Rollers

1. All rollers shall be of solid steel or double-separated plate stub end shaft construction. The stub end shafts and roller heads shall be welded in place. Bolted and or through shaft roll construction is unacceptable. All rollers shall be designed to have a maximum deflection of 0.05 inches at their center when under maximum loading.
 - a. All rollers except drive and tracking rolls shall be of carbon steel construction, coated with a minimum of 30 mils of thermoplastic nylon, selected for intended service. Drive and tracking shall incorporate 50 mils of thermoplastic nylon with a 65 Durometer surface or 3/8" vulcanized rubber for abrasion resistance and proper belt tracking and drive.
 - b. All rollers must be US manufactured at the suppliers manufacturing facility. Out sourced roll suppliers will not be accepted.

O. Drainage Pans

Drainage pans shall be supplied as necessary to contain all filtrate and wash water within the belt filter press and to reduce rewetting of down stream cake. Filtrate and wash water pans shall be constructed of minimum 14-gauge type 304l stainless steel. All drainage piping shall be furnished adequately sized for the intended service and rigidly attached to the press frame

2.05 MAGNETIC FLOWMETER

- A. One (1) magnetic flow meter shall be supplied for installation in the sludge feed pump discharge line, as shown on the drawings. The flow meter shall be capable of sending 4-20 mA_{dc} signals to the belt filter press control panel for proper operation of the belt filter press as required by the press manufacturer.
- B. The electromagnetic induction flow meter shall generate a voltage linearly proportional to flow for full-scale velocity setting from 0 to 10 feet per second. Standard accuracy of the flow rate output shall be +/- 1%.
- C. The flow meter shall comprise a pipe section or equivalent with flanged ends designed to mount directly in the pipeline between ANSI Class 150 flanges. Flow meter flow elements shall include a pair of electrodes, suitable cores, coil windings and a protective housing with terminal box. Flow meter flow elements shall be a flanged spool piece style. Flow meters shall operate on a pulsed direct current excitation and shall provide a low level, high impedance signal output that is directly proportional to the volumetric flow rate.

- D. Flow meter body shall be cast from low-copper aluminum alloy with RTV silicone rubber sealant used in all joints. The overall construction shall satisfy the requirements of NEMA Type 4X watertight construction.
- E. A remote wall surface mounted signal converter and flow transmitter shall be furnished and installed with each magnetic flow meter. Transmitters shall operate on a 120 Vac, 60 Hz power supply. The signal converter shall provide the pulsed direct current excitation for the flow meter field coils and shall convert the low level, high impedance signal from the magnetic flow meter to an industry standard 4-20 mA_{dc} current flow proportional transmission signal with an accuracy of not less than plus or minus one half percent of reference span.
- F. Transmitters shall be all solid state microprocessor based design with self-diagnostics and self-test mode. All configuration information shall be stored in non-volatile EEPROM memory without the need for battery backup. The signal converter shall include a face mounted 2-line, 16-digit LCD output indicator with a scale calibrated in engineering units (mgd or gpm) and an accuracy of better than plus or minus one percent of span. The LCD backlit display shall indicate the instantaneous flow rate, and the totalized flow rate.
- G. The signal converter enclosure shall be die-cast low copper alloy aluminum finished with a high build epoxy coating. The overall construction shall satisfy the requirements of NEMA Type 4X watertight construction.
- H. Magnetic flow meters shall be Siemens Strans Magflo magnetic flow meter and transmitter.

2.06 ELECTRICAL REQUIREMENTS

A. General Requirements

1. The belt filter press shall be provided with a local full operating 304 stainless steel NEMA 4X panel complete with all motor control and supervisory devices. The panel shall also include such ancillary drives as hereafter specified. All electrical work shall be performed in accordance with applicable local and national electric codes. The control panel shall include an Allen Bradley Micro Logix 1500 PLC with Ethernet communication.
2. Three phase, 208 volt, 60 Hertz power shall be supplied to the main control panel.
3. A control transformer shall be provided in the control panel to provide a 120-volt, single phase power source for motor starter coils, lights, relays, timers, controllers, local operating panel and other related items.

4. The local control panel shall be provided with terminal blocks for power wiring to and from the panel. The incoming terminal blocks shall be provided with a single magnetic circuit breaker disconnect switch. Fuse protected motor starters with thermal overloads shall be supplied for each motor furnished with the dewatering system.
 5. All electrical equipment controls located on the belt filter press shall have NEMA 4X enclosures and wired, through PVC conduit, to a single common NEMA 4X terminal box.
 6. All devices within the panel shall be permanently identified. Nameplates shall be provided on the face of the panel or on the individual devices as required. Nameplates shall be made of laminated phenolic materials with a white face and a black core.
 7. The panel shall be designed for manual starting and stopping of all drives. A master run-jog switch shall be supplied to override the alarm system and allow operation of any drive through a momentary contact push button.
 8. All drive stations shall be equipped with a start/stop switch and run light. The main press drive and gravity belt drive drives as herewith specified shall also incorporate a variable speed potentiometer and speed indicator. The press panel shall include start/stop pushbutton, run lights and motor starters for the existing sludge conveyor, hydraulic unit and polymer system. The panel shall also include start/stop pushbuttons, and speed potentiometers for two sludge pump and two polymer pump. The control panel shall be tied into the existing dewatering system identical to the existing control panel.
 9. Alarm lights, sensors, and related circuitry shall be provided for the following functions: gravity and press belt zero speed switches, belt misalignment, belt tension system failure, emergency trip cord on each side of the press, screw conveyor zero speed switch, and low hydraulic pressure. In the event of any of the above malfunctions, the machine will shut down and an alarm will sound. The alarm system shall include an audible horn rated at 90 DBA at 10'. The system shall include silencing provisions, but the function alarm indicating light shall remain lit until the alarm condition is satisfied. A separate set of alarm contacts shall be provided for remote alarm indication and for interruption of ancillary drives such as polymer and feed sludge pumping.
 10. Press control panel shall be furnished with 12" stand to elevate panel .
- B. Electric Motors furnished with this equipment shall meet the following requirements:

1. Rated for continuous duty at 40°C ambient and insulated with a minimum of Class F insulation, with Class B temperature rise. All motors shall be totally enclosed, fan cooled or non-ventilated. All motors supplied shall be rated at 150% nameplate horsepower of the required horsepower maximum service condition.

3.03 OPERATION & MAINTENANCE MANUALS

- A. Three (3) copies of operation and maintenance manuals shall be furnished. The manuals shall be prepared specifically for this installation and shall include detailed operating and maintenance instructions and specifications relative to the following; assembly, alignment, checking, lubrication, placing in operation, adjustment, maintenance of each unit of equipment, auxiliaries furnished under this contract, together with complete parts lists, and copies of dimension drawings.

3.04 START-UP SERVICES

- A. Before the equipment is started, the manufacturer shall make a thorough inspection of the installation to make sure the press has been installed properly and that all equipment relating to it has been installed according to the needs of the press.
- B. The manufacturer shall provide ten (2) days of on-site services of a qualified factory representative to place the units in operation. The owner shall assist the manufacturer by starting up and operating all support systems such as water, sludge pumping, polymer mixing and feed, electrical power and instrumentation, and other ancillary equipment as needed. The services provided by the manufacturer shall be as detailed in the O&M manuals and shall include at a minimum the following:
 1. Check equipment alignment and assure that there are no unusual internal stresses.
 2. Calibrate all instrumentation such as hydraulic systems.
 3. Check hydraulic systems to insure proper operation.
 4. Check lubrication in all drives.
 5. Adjust all edge seals, discharge scraper blades, drive chains, etc.
 6. Adjust spray wash, cloth tension, and belt aligning system
 7. Start the drives and assure they are operating properly with no binding and with correct rotation.
 8. Insure that all ancillary systems have been properly adjusted, including polymer and sludge feed.
- C. Start-up services shall be considered completed when the manufacturer has demonstrated that the units are operating without mechanical or operational problems.

- D. The belt press manufacturer shall supply two emergency service trips for one day of on-site services during the first year of operation at no additional cost to the owner.

3.05 COORDINATION

- A. All wiring between the press and ancillary equipment will be provided by the SUPPLIER as shown on the contract drawings.

4.01 Delivery

- A. The belt press delivery shall be no later than November 15th 2014.
- B. The belt press delivery shall be included in the cost. A two week advance notice shall be provided to Jim Cunningham, Manager MCSD at 315-655 2261 for coordination of trucking and rigging.

END OF SECTION

PRICING PAGE

1.5 Meter Belt Press Per Specifications including shipping, delivered on or before November 15, 2014

BID PRICING: _____

ESTIMATED DELIVERY DATE: _____

VENDOR NAME: _____

AUTHORIZED SIGNATURE: _____

PRINTED SIGNATURE: _____

TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

PROPOSAL OR BID

In compliance with the foregoing Invitation for Bids, and subject to all the conditions thereof the Undersigned offers and agrees, if this Bid be accepted within a reasonable time from date of opening Bids, to enter into a Contract in accordance with the price and/or prices stated herein.

The awarding of this Bid by the Madison County Purchasing Agent to the successful Bidder shall constitute a Bidding Contract between the parties, the successful Bidder agreeing to comply with all the Provisions of the Bidder's Specifications, the Legal Advertisement, General Conditions, Instruction to Bidders and Specifications applying, from part of this Proposal.

PRICING

REFER TO PRICING PAGE

Signature with the title of person authorized to sign and the names of any other parties interested in this Proposal. (See instructions to Bidders).

SIGN HERE: _____
Name of Company

BY: _____

TITLE: _____

CAUTION - - - HAVE YOU PROPERLY SIGNED YOUR BID?

If certified check or cash is required, have you enclosed same herewith?

DATE: _____ **ADDRESS:** _____

TELEPHONE NO.: _____

CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (Act), Chapter 1 of the 2012 Laws of New York, a new provision has been added to the State Finance Law (SFL), § 165-a, effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list (prohibited entities list) of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date, at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, Bidder/Contractor (or any assignee) certifies that once the prohibited entities list is posted on the OGS website, it will not utilize on such Contract any subcontractor that is identified on the prohibited entities list.

Additionally, Bidder/Contractor is advised that once the list is posted on the OGS website, any Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to the solicitation, must certify at the time the Contract is renewed, extended or assigned that it is not included on the prohibited entities list.

During the term of the Contract, should Madison County receive information that a person is in violation of the above-referenced certification, Madison County will offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then Madison County shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

Madison County reserves the right to reject any bid or request for assignment for an entity that appears on the prohibited entities list prior to the award of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the prohibited entities list after contract award.

Signed

Title

Company Name

Sworn to before me this _____ day of

_____, 2012

Notary Public

NON-COLLUSIVE BIDDING CERTIFICATION

(SEE GENERAL MUNICIPAL LAW - SECTION 103-D)

BY SUBMISSION OF THIS BID, THE BIDDER AND EACH PERSON SIGNING ON BEHALF OF THE BIDDER, CERTIFY UNDER PENALTY OF PERJURY TO THE BEST OF KNOWLEDGE AND BELIEF:

1. The prices in this Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;
2. Unless otherwise required by Law, the prices which have been quoted in the Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder, prior to opening, directly or indirectly, to any other Bidder or to any competitor; and
3. No attempt has been made or will be made by the Bidder to induce any other person, partnership, or corporation to submit a Bid for the purpose of restricting competition.

THE FOREGOING STATEMENT IS AFFIRMED AS TRUE UNDER PENALTY OF PERJURY.

SIGNATURE: _____

TITLE: _____

DATE: _____

**MADISON COUNTY
DIVISION OF PURCHASE
COUNTY OFFICE BUILDING
WAMPSVILLE, NEW YORK 13163**

Bid Ref. No. 14.21
Date: July 10, 2014
Page: 27

NON-BIDDER'S RESPONSE

For the purpose of maintaining accurate bidder's lists and facilitating your response to our bid proposals, Madison County is interested in ascertaining reasons for prospective bidder's failure to respond to invitations to bid.

If you are not responding to this bid, please indicate your reasons by checking any appropriate items below and returning this form to the above address. Your cooperation will be greatly appreciated.

We are not responding to this bid proposal for this reason:

- Items or materials are not manufactured by us or not available to our company
- Our items or materials do not meet these specifications
- Specifications not clearly understood or applicable (too vague, too rigid, etc.).
- Quantities too small
- Insufficient time allowed for preparation of bid
- Incorrect address used. Our correct mailing address is:

Other reasons: _____

PLEASE RESPOND:

We are unable to bid at this time but would like to continue to receive Bid proposals.

We are unable to bid and wish to be removed from the interested Bidder's List.

FIRM NAME: _____

ADDRESS: _____

SIGNATURE: _____

TITLE: _____ **DATE:** _____

BID NAME: _____ **REF. NO:** _____