POGGEMEYER
DESIGN GROUP

ADDENDUM NO. 2

PORTAGE CATAWBA ISLAND WASTEWATER TREATMENT PLANT
WASTEWATER POLLUTANT AND NUTRIENT MINIMIZATION PROJECT

OTTAWA COUNTY, OHIO

PDG JOB NO. 3085-100

NOVEMBER 6, 2017

I. Proposal, Bid Form, and Contract Documents

A. Add YSI as an acceptable manufacturer for the DO and ORP probes and controllers to the Base Bid Form. A revised List of Acceptable Base Bid Manufacturers and List of Base Bid Equipment Manufacturers and Substitutions is attached for your use in bidding this project.

II. Technical Specifications

A. Section 11210 – NPW System

1. Item 4.1 A. 3. A; Replace 80 gpm at 70 feet TDH, minimum pump efficiency of 85% with 80 gpm at 200 feet TDH, minimum pump efficiency of 65%.

2. Item 4.1 A. 4. A; Replace 200 feet with 250 feet.

3. Item 4.1 B. 1; Replace Amtrol Well-EXTROL Tanks Model 3000-L with Amtrol WX459C 125 psi 752 gallon tank.

B. Section 11332 – Center Flow Screen and Washing Compactor

1. Item 1.5 B. 2; Peak flow to the plant is 3.8 MGD.

2. Item 1.5 B. 3; Peak flow per screen is 3.8 MGD.

C. Section 11333 – Fixed Perforated Plate Screening Equipment and Washing Compactor

1. Title for this section is to be revised to "Fixed Perforated Plate Screening Equipment".

D. Section 11334 - Fixed Perforated Plate Screenings Washing Compactor

1. This specification section is being added in its entirety.

III. Technical Drawings

A. Attached is a revised Sheet E6.

IV. Clarifications

A. The Contractor is not required to remove equipment from the Raw Sewage Pump Station during drywell painting as long as equipment and controls are adequately protected.

B. The Contractor will be responsible for the moving of furniture, shelves, and other items in the Administration Building during the painting work.

C. The Contractor will be responsible for removal, dewatering, and disposal of the accumulated grit within the grit tank. The operators at the WWTP are not able to judge how much has accumulated. Tank dimensions are 14' x 14' x 18' deep.

V. Planholders List

A. A planholders list is available online for your reference at www.poggemeyer.com, click on BIDS and find the project.

*** END OF ADDENDUM NO. 2 ***

PORTAGE CATAWBA ISLAND WASTEWATER TREATMENT PLANT
WASTEWATER POLLUTANT AND NUTRIENT MINIMIZATION PROJECT
OTTAWA COUNTY, OHIO

List of Acceptable Base Bid Manufacturers

Section	Equipment Item	Manufacturer
02727	Concrete Tank Lining	(X) Spectrashield
11210	Non-Potable Water System	*Pump* (X) American Marsh *Hydropneumatic Tank* (X) Amtrol
11288	Stainless Steel Slide Gates	( ) Whipps, Inc. ( ) R.W. Gate ( ) Hydrogate ( ) Golden Harvest
11321	Vortex Grit Removal Equipment	( ) HydroDyne, Inc. ( ) Smith&Loveless, Inc.
11332	Sewage Screening Equipment and Washing Compactor	(X) HydroDyne, Inc.
11333	Fixed Perforated Plate Sreening Equipment	(X) Duperon
11334	Fixed Perforated Plate Sreenings Washing Compactor	(X) Duperon
13400	Dissolved Oxygen Probe Dual Channel Controller	(X) Hach
13401	Dissolved Oxygen Probe	(X) Hach ( ) YSI
13402	Oxidation Reduction Potential Probe	(X) Hach ( ) YSI
14650	Davit Crane	(X) Thern

15100	Check Valves	( ) Apco ( ) Golden Anderson ( ) Crispin ( ) Pratt ( ) Milliken Valve ( ) Val-Matic
15100	Plug Valves	( ) Pratt ( ) Val-Matic ( ) DeZurik ( ) Clow/M+H Valve Co. ( ) Milliken Valve
15100	Butterfly Valves	( ) DeZurik ( ) Pratt ( ) Val-Matic ( ) M+H Valve Company ( ) Milliken Valve
15100	Gate Valves	( ) AVK, Inc. ( ) U.S. Pipe ( ) Kennedy/Clow ( ) Milliken Valve
15111	Telescopic Valves	( ) Latanick ( ) Halliday ( ) Northcoast Valve and Gate ( ) On-Line Engineering

PORTAGE CATAWBA ISLAND WASTEWATER TREATMENT PLANT
WASTEWATER POLLUTANT AND NUTRIENT MINIMIZATION PROJECT
OTTAWA COUNTY, OHIO

LIST OF BASE BID EQUIPMENT MANUFACTURERS AND SUBSTITUTIONS

Section	Equipment Item	Base Bid	Substitutions	
		Manufacturer	Manufacturer	Add/(Deduct) from Base Bid
02727	Concrete Tank Lining			
11210	Non-Potable Water System -Pump -Hydropneumatic Tank			
11288	Stainless Steel Slide Gates			
11321	Vortex Grit Removal Equipment			
11332	Sewage Screening Equipment and Integral Washing Compactor			
11333	Fixed Perforated Plate Screening Equipment			
11334	Fixed Perforated Plate Screenings Washing Compactor			
13400	Dissolved Oxygen Probe Dual Channel Controller			
13401	Dissolved Oxygen Probe			

LIST OF BASE BID EQUIPMENT MANUFACTURERS AND SUBSTITUTIONS				
		Base Bid	Substitutions	
Section	Equipment Item	Manufacturer	Manufacturer	Add/(Deduct) from Base Bid
13402	Oxidation Reduction Potential Probe			
14650	Davit Crane			
15100	Check Valves			
15100	Plug Valves			
15100	Butterfly Valves			
15100	Gate Valves			
15111	Telescopic Valves			

SECTION 11334

FIXED PERFORATED PLATE SCREENINGS WASHING COMPACTOR

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Duperon Corporation shall furnish an interleaving, dual auger washer compactor assembly as shown on the drawings and as specified herein. A single unit shall provide washing and compacting action on waste water screenings. The equipment shall be manufactured by Duperon Corporation, 1200 Leon Scott Court, Saginaw, Michigan, 48601, (800) 383-8479, in accordance with this Section.

B. RELATED WORK

1. Screen
2. Conveyor
3. Receptacle

1.2 QUALITY ASSURANCE

A. All equipment furnished under this Section shall be of a single manufacturer and demonstrate, to the satisfaction of the Engineer, that the quality is equal to equipment made by those manufacturers specifically named herein.

B. The equipment furnished shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with approved drawings, specifications, engineering data, and/or recommendations furnished by the equipment manufacturer.

C. References

1. American Welding Society (AWS)
2. AWS D1.1 Structural Welding Code – Steel
3. American Institute of Steel Construction (AISC)
4. Manual of Steel Construction

D. Submittals

1. The equipment manufacturer shall submit the following items in sets of 4
2. Shop Drawings (including main layout drawings, list of equipment specifications, and recommendations furnished by the equipment manufacturer).
3. As-Built Drawings of the Washer Compactor Structure, Controls, and Accessories (as is applicable).
4. List of Spare Parts and Special Tools.

E. O&M Manuals, including As-Built drawings, (4) sets shall be provided after equipment ships for inclusion in the close-out Submittal process.

PART 2 PRODUCTS

2.1 WASHER COMPACTOR

A. Design Features

1. Compacting Action: Dual augers provide positive displacement action, are orientated on top of each other and rotate in opposing directions. The augers are intermeshed and are of one left hand and one right hand lead. Compactor augers shall be designed with a limited float on top of a perforated plate strainer, allowing them to accommodate irregular debris.

2. Washing Action: The wash water manifold shall be integrated into the main housing. Two ports inside the unit emit a medium pressure stream. Water supply shall be capable of 3 to 5 GPM at a pressure of 40 to 60 PSI. A ½ inch NPT connection is provided for attaching water source. Water may be filtered effluent or municipal water. Drain connection shall be 3" NPT male.

3. Operation: Washer Compactor is designed to be continuous run, not requiring operator. Washer Compactor is equipped with a self-regulating, active pressure zone designed to accept non-standard wastewater debris in its original form, such as rocks, broken concrete, and metal (bolts, short pipe, etc.) up to 4 inches long. Washer Compactor shall have the ability to process multiple pieces of clothing, variable volumes of debris, and unprocessed septage or grease. Compactor moves at normal operating speed of 2.4 to 9.8 RPM and can run intermittently to sync with upstream equipment.

B. Components

1. Main Housing: The main housing of the compactor shall be constructed of stainless steel and be a minimum of 11 Gauge and connect to 3/8 inch thick flanges.

2. Augers: Shall be of stainless steel with 8 in. diameter flights 3/8 inch thick and have a 4 inch flight pitch. Augers shall be coupled to a transmission at the drive end and supported at the compaction end with UHMW plane bearings. Such arrangement allows movement for accommodation of irregular debris.

3. Compaction Housing: Shall be 1/4 stainless steel and shall house a spring and gate assembly which provide the resistance for compaction. The housing shall contain the Auger Supports.

4. Water Supply: The water supply shall connect at a single point with a 1/2 NPT female connector. Ball valves shall be provided to distribute flow to the washing and trough sprayer connections.

5. Drain Trough: A removable pan shall be provided under the main housing. It will collect the washwater and drain it out a 3"NPT male drain port. The pan will be minimum 11 gage stainless steel.

6. Drive Assembly

a. Each Washer Compactor unit shall operate independently and will have its own drive unit and driven components. The gearbox shall not be vented

to the outside atmosphere.

b. The gearbox shall be grease lubricated and designed for 5 years (or 20,000 hours of operation) between recommended clean and re-grease services. The gearbox shall be right angle type and shall incorporate cycloidal and spiral bevel gearing with a total ratio of 179:1. The gear reducer output shaft speed shall be 2.4 RPM minimum to 9.8 RPM maximum and controlled by an AC Tech, vector type inverter or greater service factor based on unit torque requirements. It shall be shaft mounted utilizing the keyless Taper-Grip® bushing.

c. The motor shall be mounted to the gear reducer by utilizing a quill, C-Face mounting style. The motor shall be AC induction type, 3 hp, 3/60/230/460 volt, explosion proof, inverter duty model.

d. The drive assembly shall incorporate the Duperon® standard coating system.

7. Auger Transmission

a. The Drive Assembly shall be coupled to a dual gear transmission which drives the augers in counter rotation.

b. The spur gears are contained in a stainless steel housing and supported by Delrin plane bearing.

c. Grease fittings shall be located outside of the transmission housing to provide lubrication to the gears.

8. Speed Reducer: Shall have a maximum output of 9.8 RPM, 179:1 reduction ratio with 18,900 in-lb. of output torque.

9. Thrust Bearings: Shall be Delrin, self-lubricating and be capable of withstanding minimum 2000 Lb. of thrust load (each auger) at 9.8 RPM for life of machine.

10. Screw supports: Shall be UHMW plane type, self-lubricating and fastened into place using stainless steel fasteners.

11. Spur Gears: Shall be 17-4 PH stainless steel.

C. Spare Parts and Special Tools Shall include the following: Plane bearing kit includes:

1. 2 side screw supports

2. 2 upper/lower screw supports

3. Fasteners

4. 14 oz. grease tube

D. Materials

1. Fabrications: All welded fabrications are to be made from stainless steel. All welded connections and welding procedures shall comply with AWS "Structural

Welding Code – Sheet Steel" D1.3/D1.6.

2. Select Parts: Select power transmission parts to be made from cast iron; however, shall conform to coating as follows.

3. Standard Coating

   a. Motor Gearbox shall be coated in strict accordance with the paint manufacturer's specification. Surface Preparation shall be done in accordance with SSPC-SP-10 near White. The three-part coating system shall be manufactured by Tnemec as follows: Prime Coat Series 90-97 Tnemec Zinc at 2.5-3.5 mils DFT, Intermediate Coat Series 27 F.C. Typoxy at 3.0-5.0 mils DFT, and Top Coat Series 1075U Endura-Shield II at 2.0-3.0 mils DFT. Standard color is 11SF Safety Blue. Material shall meet all state and federal VOC and other regulatory requirements.

   b. Alternatives: Any alternate products must provide certified test reports when submitting products other than those specified herein the specification. Test reports shall indicate the test method, system and requirements for those products being submitted, and shall meet or exceed the test criteria and performance values of the specified coatings herein.

   c. Non-metal: Parts not covered above shall be made from UHMW polyethylene.

E. Controls

1. General: Controls shall be provided by Washer Compactor manufacturer. Controls shall be designed to accept 3PH 240/480 volt incoming power supply per plans/specs. Control panel power shall be 1 PH/120 VAC and shall include a step-down transformer to achieve 120V.

2. Controls shall be built by a UL-approved panel builder and bear the UL-approved logo. Controls shall be tested by panel builder and by the Washer Compactor manufacturer prior to shipment to owner. The Washer Compactor manufacturer shall verify all overload settings in the Washer Compactor controller to insure proper overload and speed settings required for the application are properly programmed.

3. Main Panel

   a. Main control panels require shading from the sun and shall be operated within a temperature range between 35 and 104 F. Sunshields, visors, or other structures necessary to provide shade are by others.

   b. The controls shall be rated NEMA 4X, yet be located in a climate-controlled environment and be mounted per plans.

   c. Control panel shall have an inner door pocket that includes a copy of As-Built drawings from the manufacturer, as well as any other pertinent documentation necessary to properly operate the controls.

   d. The control package shall include the following and utilize the panel builder's standard component manufacturers, unless otherwise approved

by the Washer Compactor manufacturer:

1) N4X 304 SSTL enclosure with continuous hinge, exterior, lockable door.

2) High volt transformer.

3) HOA Selector where Hand mode shall enable the local station and Auto receives a Run signal from a remote/discrete source. When input signal is cut, the Washer Compactor shall then utilize an off-delay timer to allow debris to finish depositing.

4) Duperon® speed controller (based on vector drive technology), pre-programmed for speed/overload control by the panel builder and verified by the Washer Compactor manufacturer.

5) Dry contact input for motor thermostat to shut down equipment if motor overtemp condition occurs.

6) Dry contact output signals for "Run", "Start Solenoid", "Common Fault", and "In Auto" conditions.

7) 120 VAC output power to wash water solenoid.

8) Dry contact input terminals for "Remote Run", "Motor Thermostat", and remote station.

9) Main control power breaker with lockable, thru-door operator.

10) Elapsed run-time meter.

11) "Push-to-Test" type indicator lights for "Power On", "Forward", "VFD Fault", and "Motor Overtemp".

12) Phenolic label on outer door indicating equipment identification number.

13) Push/Pull E-Stop on outside of enclosure.

4. Remote Panel

a. A NEMA 7/9 remote push button station is required to maintain equipment requirements and local safety codes.

b. The remote station shall be rated NEMA 7/9 and include Forward, Jog Reverse, and E-Stop buttons. The remote station shall be mounted as close to the equipment as safely possible and be field-wired by the electrical subcontractor to the corresponding terminal inputs in the main control panel. Jog Reverse shall only function for a period of one second (or less) when button is depressed to stay within manufacturer's operational and design parameters.

5. Sequence of Operations

   a. The controls shall enable the remote push button station installed near the Washer Compactor when in Hand mode and utilize an input signal from a remote source when in Auto mode. Upon receiving a stop signal in Auto mode, the Washer Compactor shall utilize an off-delay timer to allow debris to finish depositing.

   b. The Duperon® speed controller fault shall be cleared by turning off the Washer Compactor, then waiting approximately three minutes (or time designated per current UL standards) and then turning the HOA back to the desired setting. A motor overtemp fault shall clear automatically when the motor cools to be within normal operating range.

6. Miscellaneous

   a. The following shall be provided by the electrical contractor and are not part of the Washer Compactor manufacturer's scope of supply:

      1) Mounting stands

      2) Mounting hardware

      3) Field wiring and conduit

         a) VFD rated motor cable (Belden #29502 or equal) is recommended for all motors.

         b) Motor cables shall be less than 80 ft. long unless specified otherwise.

      4) Junction boxes

      5) Installation

   b. The field wiring shall include (but not be limited to) the following connections as applicable:

      1) Incoming power supply to the main control panel

      2) All required grounding of the motor and controls

      3) Motor to the main control panel

      4) VFD rated motor cable (Belden #29502 or equal) is recommended for all motors.

      5) Motor cables shall be less than 80 ft. long unless specified otherwise.

      6) Motor thermostat to the terminal inputs in the control panel

      7) Input and output signal wiring for remote start/stop as required by plans/specs

c. Remote station contacts to the corresponding terminal inputs in the main control panel

PART 3 EXECUTION

3.1 INSTALLATION

A. Installation shall be installed in strict conformance with the manufacturer's installation instructions, as submitted with Shop Drawings, Operation & Maintenance Manuals and/or any pre-installation checklists. Installation shall utilize standard torque values and be installed securely in position and neat in appearance. Installation shall include any site preparation tasks. Pre-installation tasks as determined by the manufacturer; such as unloading, touch-up painting, etc. and any other installation tasks and materials such as wiring, conduit, controls stands, as determined by the customer and/or specified by the manufacturer. All plumbing to be completed at site following all local and national plumbing regulations, by a qualified individual.

3.2 TESTING

A. After completion of installation, Contractor shall provide for testing. Testing of the Washer Compactor shall demonstrate that the equipment is operational, and that the equipment will wash, compact and deposit materials not to exceed 4 inches.

3.3 WARRANTY

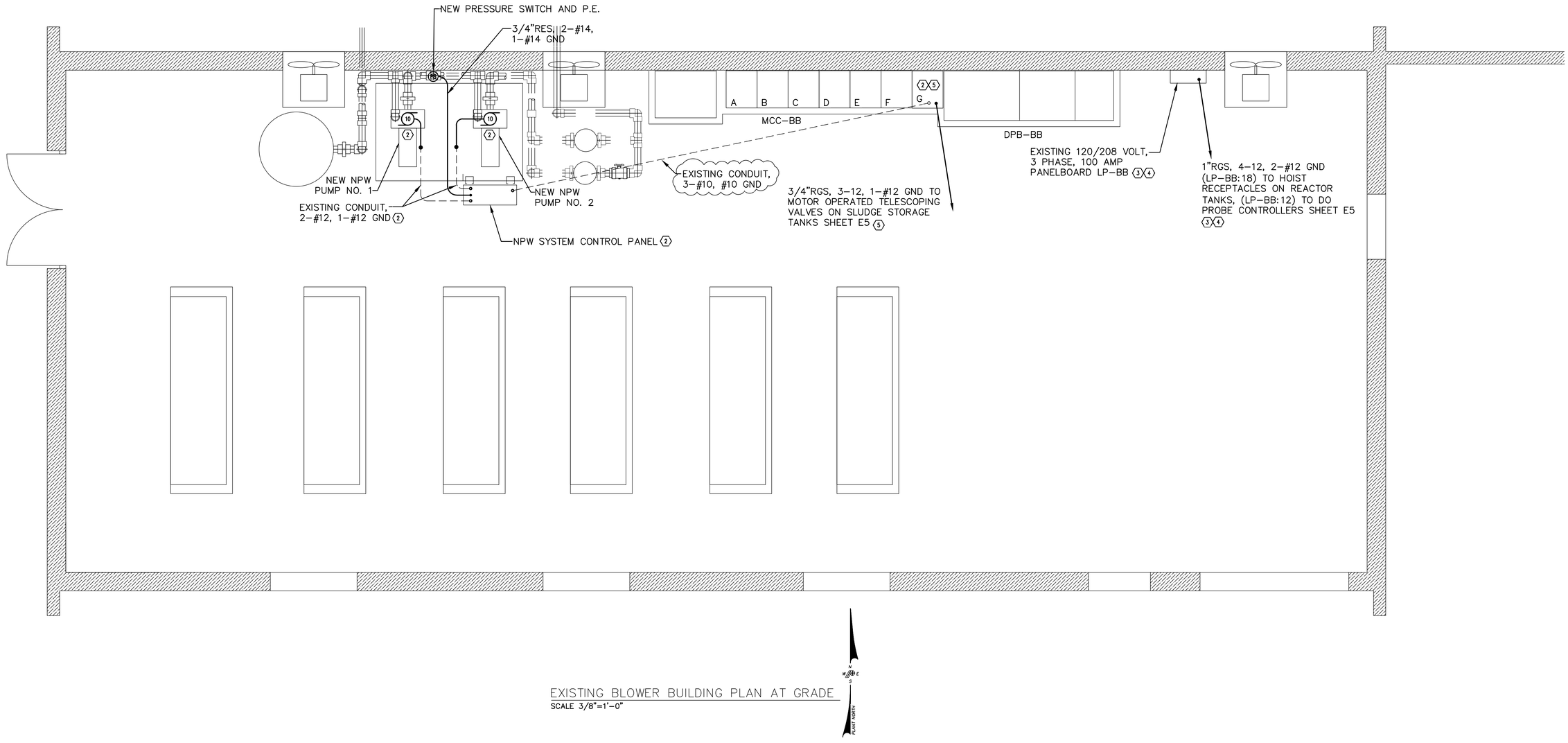
A. A written one year standard warranty from the date of use of the equipment shall be provided the equipment supplier to guarantee that there shall be no defects in material or workmanship in any item supplied.

Washer Compactor WC3.B2.5 Data Sheet	
EQUIPMENT:	
Washer Compactor:	1
MODEL CAPACITY	90 cu.ft./hr.
WASTEWATER APPLICATION	16 to 60 MGD (1/4" barscreen)
Peak Capacity (approx. 7 minutes):	28 cu. ft./hr.
Average Capacity (continuous):	24 cu. ft./hr.
Water: Typical	Utilizes filtered effluent or municipal water
	Consumes 3-5 gallons per minute
	Requires 40 to 60 PSI
	½ inch NPT supply – Female threads
	3 inch NPT drain – male threads
Materials of Construction:	304 SSTL
	17-4 spur gears

	Delrin (or equiv.) thrust and plane bearings
	UHMW auger supports
Hopper Height (Deck to Hopper):	38"
Hopper Length (WC3.B2.5 Unit):	43"
PERFORMANCE DATA:	
dry solids	30%-60%
mass/weight reduction	60%-70%
volume reduction	80% (6:1)
	Significantly decreases odor/fecal
MOTOR/DRIVE	
Motor Size:	3 HP
Motor Paint:	Duperon® Standard Tnemec Coating
Motor Service Factor (minimum):	1.0
Output Speed:	9.8 RPM
Speed Reducer Ratio/Output:	179:1
Speed Reducer Paint:	Duperon® Standard Tnemec Coating
SITE POWER:	
Phase/Voltage:	3 Phase (240/480 volt)
CONTROLS:	Integrated into Screen Main Control Panel
	Main Control Breaker
	Emergency Stop
	HOA (Auto is discreet "Run" input)
	Fwd/Jog Reverse/E-Stop push button station
	"Run" and "In Auto" discrete outputs
	Explosion Proof Local Stations Standard.
CONTROLS MOUNTING:	Wall
	Pedestal (By Others)
PROJECT MANAGEMENT:	
Submittal Quantity:	2-4
O&Ms Quantity:	2-4
Warranty Period:	1 Year

SHIPPING:	Main unit
	Chute(s)
	Accessories (heat blanket, etc)

END OF SECTION



EXISTING BLOWER BUILDING PLAN AT GRADE
SCALE 3/8"=1'–0"

NOTES:

(1) REFER TO SHEET E1 FOR ELECTRICAL SITE PLAN, SHEET E2 FOR PLANT SINGLE LINE DIAGRAM. REFER TO SHEET E5 FOR VARIABLE VOLUME, REACTOR TANKS ELECTRICAL PLAN.

(2) COORDINATE REMOVAL OF EXISTING NON POTABLE WATER PUMPS AND CONTROL PANEL WITH GENERAL CONTRACTOR. DISCONNECT AND REMOVE PUMPS AND ALL WIRING TO SOURCE. REMOVE EXISTING 7 AMP ADJUSTABLE MAGNETIC CIRCUIT BREAKER FROM MCC–BB SECTION G AND REPLACE WITH NEW 30 AMP MAGNETIC CIRCUIT BREAKER, PROVIDE NEW DOORS AND NAME PLATES TO MATCH EXISTING. MCC IS SQUARE D MODEL 5 TYPE CONTROL CENTER. REPLACE EXISTING PUMPS AND CONTROL PANEL WITH NEW. EXTEND EXISTING CONDUITS TO ABOVE LEVEL OF NEW CONCRETE PAD EXTENSION AND CONNECT TO PUMPS AND CONTROL PANEL AS REQUIRED. PROVIDE NEW WIRING AS INDICATED ON PLANS. RETURN REMOVED CIRCUIT BREAKER BUCKETS TO OWNER.

(3) CONTRACTOR TO VERIFY THAT BREAKER 12 IN PANELBOARD LP–BB IS SPARE AND CONNECT NEW DO PROBE CONTROLLERS FROM VARIABLE VOLUME REACTOR TANKS SHEET E5. REVISE PANELBOARD SCHEDULE AS REQUIRED. COORDINATE WITH OWNER AND GENERAL CONTRACTOR FOR ROUTING OF CONDUIT. USE EXISTING OR SPARE CONDUITS TO EXIT BUILDING IF AVAILABLE.

(4) CONTRACTOR TO VERIFY THAT BREAKER 18 IN PANELBOARD LP–BB IS SPARE AND CONNECT NEW RECEPTACLES FOR DAVIT CRANE HOISTS. REFER TO SHEET E5 FOR VARIABLE VOLUME, REACTOR TANKS ELECTRICAL PLAN. COORDINATE WITH OWNER AND GENERAL CONTRACTOR FOR ROUTING OF CONDUIT. USE EXISTING OR SPARE CONDUITS TO EXIT BUILDING IF AVAILABLE.

(5) PROVIDE NEW 10 AMP ADJUSTABLE MAGNETIC CIRCUIT BREAKER AND DOOR. PLACE IN SPARE SECTION OF MCC–BB SECTION G. CONNECT TO NEW MOTOR OPERATED TELESCOPING VALVES IN SLUDGE STORAGE TANKS SHEET 5. COORDINATE WITH OWNER AND GENERAL CONTRACTOR FOR ROUTING OF CONDUIT. USE EXISTING OR SPARE CONDUITS TO EXIT BUILDING IF AVAILABLE.

POGGEMEYER DESIGN GROUP, INC.
ARCHITECTS • ENGINEERS • PLANNERS
1168 NORTH MAIN STREET (419) 352–7537 BOWLING GREEN, OHIO 43402

PCI WASTEWATER TREATMENT PLANT IMPROVEMENTS
OTTAWA COUNTY, OHIO

EXISTING BLOWER BLDG. RENOVATION ELECTRICAL PLAN

DRAWN BY	CHECKED BY
G.N.C.	D.L.K.

REVISION
EPA 4/7/17
BIDS 10/23/2017
REV. 11/3/2017

E6 OF 26

JOB NUMBER 3085–100