



City of Milton

P.O. Box 909

MILTON, FL 32572

Phone: (850) 983-5480

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MEMORANDUM

TO: Interested Parties

FROM: Lori McCafferty, Purchasing Agent

RE: **PURCHASE OF SUBMERSIBLE WET PIT SEWAGE PUMPS & SPECIAL ACCESSORIES (Equipment Only) – Bid #2017-02-004**

DATE: February 24, 2017

The City of Milton is soliciting bids for the purchase of the two (2) **Submersible Wet Pit Sewage Pumps**. It is the intent of this notice to seek costs for purchase of the equipment and special accessories only and the City of Milton will perform installation of the new pumps.

All quotes should be submitted to the City's Purchasing Department before **MONDAY, MARCH 13, 2017 at 2:00 p.m.** Bidders must review and meet the specifications to ensure the quote meets the requirements of the Technical Description/Specifications as provided in this document. The Bidder is responsible for obtaining full bid document, including addenda, which can be accessed through the city's website at www.MiltonFl.org Links provided on the website will direct interested parties to the bid documents posted at www.floridabidsystem.com AND www.vendorregistry.com

Bidders may conduct a site visit of the Lift Station in question prior to submitting a proposal. The location of the Lift Station is: 5438 Munson Hwy., Milton, FL. Any site visit should be coordinated with the City's Utility Director, Joe Cook, by calling (850) 983-5248. The deadline for submitting your proposal is **Monday, March 13, 2017 at 2:00 p.m.** CST, at City Hall, Milton Florida. All interested parties are encouraged to attend.

Questions should be submitted in writing and directed to Lori McCafferty at lori.mccafferty@ci.milton.fl.us. If necessary, an addendum to the bid with questions and answers will be made available on the bid sites listed above for all parties to review. Questions will be accepted until one week prior to the bid date.

Lori McCafferty

Lori McCafferty, Purchasing Agent

INSTRUCTIONS FOR PROPOSAL/QUOTE:

- I. Bid must be received by **Monday, March 13, 2017 at 2:00 p.m. (CST)**

- II. Proposals must be submitted to:
City of Milton
Attn: Purchasing Department
6738 Dixon Street, P.O. Box 909
Milton, Florida 32572

- III. Bids must be complete and include:
 - A. Public Entity Crime Form (FS Section 287.132-133) (*City website or online*)
 - B. Conflict of Interest Disclosure Form (*City website*)
 - C. Non Collusion Affidavit (*City website*)
 - D. Bid Submittal Form (*Page 10 PDF ~or~ Separate WORD /Excel document*)

The **successful bidder** will be required to submit a Taxpayer Identification Number and a Non Collusion Affidavit.

All proposals submitted shall be subject to acceptance or rejection and the City of Milton specifically reserves the right to accept or reject any or all proposals, to waive any technicalities and formalities in the proposal process and award the bid in part or in any manner deemed to be in the best interest of the City. The City of Milton is exempt from sales tax.

Upon quote/bid award, the terms and conditions of this quote/bid or any portion thereof, may, upon mutual agreement of the parties, be extended for an additional term or for additional quantities.

Interested Parties shall submit all required forms and information simultaneously with sealed proposal, which forms and information become a part of the property of the City of Milton and will not be returned to the firm unless a written request to withdraw is received prior to **Monday, March 13, 2017 at 2:00 p.m.**

The purchaser may consider as non-responsive, any bid in which there is an alteration of, or departure from the proposal form hereto attached.

The proposal will be awarded to the best firm, as determined by the City of Milton, who complies with the conditions of the invitation for quotes. The firm to whom award is made will be notified at the earliest possible date. The City of Milton reserves the right to reject the proposal of a firm who has previously failed to perform properly or complete on time, contracts of a similar nature, or the proposal of a firm who, in the sole opinion and discretion of the City of Milton is not in a position to perform the contract, or whose name appears on the United States Comptroller General's list of ineligible contractors.

Proposals may be withdrawn by written or faxed request, provided such withdrawals are received prior to bid opening date.

NOTE: Unless stated on the Proposal form the proposal submitted will assume all specifications will be met. Please note on the proposal form all exceptions.

**SUBMERSIBLE WET PIT SEWAGE PUMPS & SPECIAL
ACCESSORIES FOR
MUNSON HWY. LIFT STATION – Bid #2017-002-004
TECHNICAL DESCRIPTION/ SPECIFICATION**

SUBMERSIBLE WET PIT SEWAGE PUMPS – * (See attached drawing) *****

PART 1 - GENERAL SYSTEM DESCRIPTION

PERFORMANCE REQUIREMENTS

Operating Conditions - Design: 338 GPM @ 49 FT TDH @ 46% Efficiency
Minimum Shutoff head: 63 FT
Maximum Motor HP @ Design Point: 8.89 HP (Motor Shall Be 10 HP Max).
Minimum Hydraulic Efficiency (at design): 46.1%
Maximum Motor RPM: 1750 RPM

QUALITY ASSURANCE - REFERENCED STANDARDS:

American Iron & Steel Institute (AISI)
American Society for Testing and Materials (ASTM)
Factory Mutual (FM)
Hydraulic Institute Standards for Centrifugal, Rotary, and Recip Pumps (HI)
National Fire Protection Agency (NFPA)
National Electric Code (NEC)
National Electrical Manufacturers Association (NEMA)
Anti-Friction Bearing Manufacturers Association (AFBMA)
International Standards Organization (ISO) - ISO9001

WARRANTY

The pump manufacturer shall warrant the pump and motor to the Owner against defects in workmanship and materials for a period of five (5) years under normal use and service. Warranty shall cover parts and shop labor. Pump manufacturer warranty shall be in published form, and shall apply to all similar units. ***A copy of warranty shall be provided in Submittal.***

Certified Test Reports for each pump showing that pumps deliver specified flows shall be supplied to Owner/Engineer prior to delivery.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS

Subject to compliance with the Contract Documents, the following are acceptable:

KSB Vortex Pumps capable of passing 4" solids

Equal alternates as approved by the Owner 14 days prior to bid

All products, whether named as "acceptable" or proposed as "equal" must fully comply with these specifications. Product that must be modified for compliance will not be acceptable. The Pump Distributor shall base his bid price on product equal to the KSB Pumps Specified. Alternate proposals must include a clear statement of each point of difference between the proposed alternate product and these specifications. The Owner and Engineer reserve the right to reject any bid not based on KSB product.

MATERIALS

SUBMERSIBLE SEWAGE PUMPS

Pump Case: Cast Iron, ASTM A48, Class 35B

Motor Housing: Cast Iron, ASTM A48, Class 35B

Impeller: Hard Metal (White Chromium Iron) with 5 year abrasion warranty.

Intermediate Housing (Backplate): Cast Iron, ASTM A48, Class 35B

Discharge Base Elbow: Cast Iron, ASTM A48, Class 35B

Pump/Motor Shaft: Carbon Steel, ASTM A576, Gr.1045 with replaceable ASTM A276

Type 420 shaft protection sleeve. (NOTE: If sleeve is not supplied, entire shaft is to be ASTM A276 Type 420 stainless steel)

Shaft Sleeve (if used): Stainless Steel, ASTM A276 Type 420

Wear Ring, case: Cast Iron, ASTM A48, minimum 200 Brinell

Wear Ring, impeller (enclosed impellers only): Stainless Steel, AISI329, 350 Brinell

O-Rings: Nitrile Rubber (NBR)

Fasteners (including impeller fastener): Stainless Steel, ASTM A276 Type 316Ti.

Lower Seal Faces: Silicon Carbide/Silicon Carbide

Upper Seal Faces: Silicon Carbide stationary/Carbon rotating

Guide rails/cables and mounting brackets: Stainless Steel, ASTM A276 Type 316 (cables shall be nylon coated)

Lifting Chain or cable: Stainless Steel, ASTM A276 Type 316

Oil-all uses (seal lubrication, etc.): Ecologically safe, paraffin or mineral base

Power/Control Cable Jacket: Chloroprene with non-wicking fillers

ACCESSORIES

POWER CABLE

Provide 50 ft. of power/control cable with each pump, suitable for submersible wastewater application, sized in accordance with NEC requirements. Provide cable terminal box on side of motor housing, with cable entry sealed to insure that no entry of moisture is possible into

the high-voltage motor/ terminal area even if the cable is damaged or severed below water level. Cable seal shall include a compressed rubber grommet to seal the cable exterior and epoxy fill to seal the interior passages. A strain relief device, in direct contact with both the cable and the cast iron entry housing, shall be provided. The cable entry shall be rated by Factory Mutual (or UL) for submerged operating depths to 85 feet.

TEMPERATURE PROTECTION

Furnish temperature monitoring devices in motor windings for use in conjunction with and supplemental to external motor overload protection. Arrange controls to shut down pump should any of the monitors detect high temperature and automatically reset once motor temperature returns to normal. Set temperature monitors at levels recommended by pump manufacturer

SEAL LEAK DETECTION

Provide a detector in the motor's stator cavity which allows a control panel mounted relay to indicate leakage into the motor. In addition, on motors 80HP and larger provide a stainless steel float switch in a separate leakage collection chamber to indicate leakage past the inner mechanical seal prior to its entrance into either the motor stator cavity or the lower bearing. Electronic probes which depend on sensing resistance value changes in seal oil will not be acceptable as seal leak indicators.

“PumpSafe” MOTOR SENSOR MONITORING RELAY

The pump supplier shall furnish all relays required for monitoring all motor sensors. The relays shall be installed by others in the motor control panel and properly wired in accordance with pump manufacturer's instructions. Relays shall mount in standard 12-pin socket bases (provided) and shall operate on available control voltage of 24-240 VAC. If relays require an input voltage that is not available in the motor control panel an adequate transformer (with fused input) shall be provided by the pump supplier. Relays shall have a power consumption of no more than 2.8 watt, and shall be UL approved. Relays shall be modular in design, with each relay monitoring no more than two motor sensor functions.

Each relay module shall include a dual color (red/green) LED to indicate the status of each monitored sensor. Green will indicate “status OK”; red will indicate a failure or alarm condition. A self-corrected fault will allow the relay output contacts to reset, and cause the LED to change from a steady alarm indication to a flashing signal. The LED shall continue to flash until locally cleared, providing the operator an indication of a potential intermittent fault. Each relay shall also include a power-on LED and both “test” and “reset” pushbuttons.

An independent fail-safe (switch on power loss) form-C output contact shall be included for each monitored sensor to provide a normally-open / normally-closed dry contact to initiate a remote alarm device or shut down the motor. Contacts shall be rated for 5 amps at 120 volt.

FABRICATION

GENERAL

Provide pumps capable of handling raw unscreened wastewater. Design pumps to allow for removal and reinstallation without the need to enter the wet well and without removal of bolts, nuts or other fasteners.

Provide a pump which connects to a permanently mounted discharge connection by simple downward motion, without rotation, guided by at least two non-load-bearing guides. All system components for guide systems shall be supplied and warranted by the pump manufacturer except the 2" rail pipe. The rail pipe shall be 2" dia. Sch.40 316 SST and must be installed perfectly plumb and vertical. Final connection shall insure zero leakage between pump and discharge connection flange. Provide a discharge connection/ guide system so that no part of the pump bears directly on the floor of the wet well. Provide Type 316 stainless steel chain of sufficient length to properly and safely lift pumps from the wet well. All exposed cast iron and ferrous surfaces shall be cleaned of dirt and grease, sandblasted to near white finish, and coated with an anti-corrosion reaction primer. The pump shall then be coated with two-component thick coat paint, with an epoxy resin base, having at minimum 83% solids by volume. This coating shall be non-toxic and approved for both wastewater and water applications. Note: **The Pump Claw must have a rubber profile gasket to prevent "Metal-to-Metal" connection to Base Elbow.**

MAJOR COMPONENTS

Furnish major components (pump case, impeller, intermediate housing, and motor housing) of cast material as specified with smooth surfaces devoid of blow holes and other irregularities. Pump case design shall incorporate a centerline discharge for stability when mounted on the base elbow.

IMPELLER

Provide "VORTEX" type impeller, capable of passing at minimum 4" spherical solid. Statically and dynamically balance the impeller. Impeller must be cast "White Chromium Iron" (Hard Metal) with 5 year abrasion warranty. If, upon inspection, within the 5 years of service the impeller shows any wear from sand it will be replaced at no charge to the City of Milton.

SHAFT

Provide common pump/motor shaft of sufficient size to transmit full driver output with a maximum deflection of 0.002 inches measured at the lower mechanical seal. Machine the shaft of carbon steel (for maximum strength and motor efficiency) and isolate the shaft from the pumped media with a replaceable Type 420 stainless steel shaft sleeve under the lower mechanical seal. Do not use carbon steel as shaft material without a stainless steel sleeve. If a sleeve is not used, machine the entire pump/motor shaft of ASTM A276 Type 420 stainless steel

SHAFT SEAL

Provide two totally independent mechanical shaft seals, installed in tandem, each with its own independent single spring system acting in a common direction. Install the upper seal in an oil-filled chamber with drain and inspection plug (with positive anti-leak seal) for easy access

from external to the pump. Provide seals requiring neither routine maintenance nor adjustment, but capable of being easily inspected and replaced. Provide seals which are non-proprietary in design, with replacements available from a source other than the pump manufacturer or its distributors. Do not provide seals with the following characteristics: conventional double mechanical seals with single or multiple springs acting in opposed direction; cartridge-type mechanical seals; seals incorporating coolant circulating impellers, seals with face materials other than those specified

BEARINGS

Furnish upper and lower bearings, single row (preferred) or double row as needed to provide a B10 life of, at minimum, 100,000 hours at all anticipated axial and radial loadings. Provide sealed/shielded (permanently lubricated) bearings .If open-type (non-shielded) bearings are used, provide re-lubrication ports with positive anti-leak plugs for periodic addition of lubrication from external to the pump

MOTOR

Provide a motor which is squirrel cage, induction in design, housed in a completely watertight and air filled chamber, with a min 1.15 service factor. The motor shall be adequately sized and rated for continuous operation at a maximum fluid temperature of 140°F (60° C)]. Allowable maximum submergence shall not be less than 100 ft. (30 m). The motor stator shall be wound using Class H monomer-free polyester resin insulation resulting in an overall motor rating of 311 Degrees F (155 degrees C), Class F insulation. The stator windings shall be trickle impregnated resulting in a winding fill factor of at least 95%. The use of a multiple step “dip and bake” type stator insulation method shall not be acceptable. The rotor bars and short circuit rings shall be made of aluminum. The motor and pump set complete shall be designed and manufactured by the same company. Provide temperature protection and seal leak detection as described in section above. Provide adequately rated motor with sufficient surface area for ambient only cooling suited for the intermittent mode of operation in wet well wastewater applications, submerged or partially submerged, without damage. Motors containing di-electric oils used for motor cooling and/or bearing lubrication or motors where the pumped media or externally provided fresh water is directed through the motor shell for cooling are not acceptable.

Provide motors which are FM listed for use in Class I Division 1 Groups C&D hazardous locations as defined by the National Electric Code

F.L.A's not to exceed 26.2, per pump.

SOURCE QUALITY CONTROL

EQUIPMENT TESTS

Tests shall be performed in accordance with the Test Code for Centrifugal Pumps per the Standards of the Hydraulic Institute, Level A. Tests shall be performed on the actual assembled pumps to be supplied. Tests shall cover a range from shut-off to, at minimum 20% beyond specified design capacity. Conduct test per above specification on all supplied pumps,

generating a curve showing actual flow, head, BHP and hydraulic efficiency. Test for each pump must be provided to Owner for approval prior to delivery.

SPECIAL ACCESSORIES

1. Supply 1/2" SST plate that is bent into stand 6" tall and as wide as the Guide Rail System Base Elbows. Three 1-1/4" dia. holes shall be located in top of plate so that grout can be poured to assure full fill of cavity. Corners shall have holes to accept 1/2" concrete anchors.

2. Pump must have SST lift bails at least 18" tall so that pumps may be "snatched" via crane hook easily.

3. Duplex Control Panel shall be as supplied by ECS Control Systems- Jacksonville, FL. and must have fiber optic, pipe mounted float switches by Opti-float. Special 1" SST pipe with chain shall be supplied to mount the floats. Panel must have the Special "Pump Safe" modules integrated. Panel shall be SST and must have integral "Air Break" box. Enclosure shall be supplied so that Electrical Contractor can mount onto backboard. To assure single source responsibility the panel must be provided by pump supplier. Include following:

- Phase Monitor.
- Lightning Protection.
- Nema Rated Starters with Overload Protection.
- Alt. with "Lead-Lag" Selector Switch.
- Surge and Lightning Protection.
- Elapsed Time Meters for each pump.
- Large lugs for float/control Terminal Strips and Incoming Power Wires.
- Enclosure/Air Break shall be SST and powder coated forest green.
- Compression type cord grips shall be used to pull Pump and Float wires from air break box to panel.
- Air Break must have a pad lockable latch.
- Panel Integrator must be "UL-508" approved and panel must have a UL label for "enclosed industrial controls".
- Panel must have black aluminum inner door with all nomenclature "laser etched".
- Pump Redundant name plates must be attached to inner door with SST hardware.
- Panel must be "benched tested" prior to shipment.

4. All above ground pipe shall be 4" Sch.40 316 SST. The above ground pipe, valves and fittings to include ARV's must be supplied by Pump Distributor to assure proper spacing, etc.

SPECIAL PROVISIONS

FAILURE TO DELIVER

In the event of failure of the contractor to deliver the goods and services in accordance with the contract terms and conditions, City of Milton may procure the goods and services from other sources and hold the contractor responsible for any resulting additional costs. A failure to deliver will result in immediate termination of a resulting contract, and immediate disqualification and debarment from

submitting quotes to City of Milton for a maximum of three (3) years. These remedies shall be in addition to any other remedies that City of Milton may have available

TRANSPORTATION AND PACKING:

Prices quoted shall be net, including transportation and delivery charges fully prepaid by the seller, f.o.b. City of Milton. No additional charges will be allowed for packing, packages, or partial delivery costs. By submitting their bids, all bidders certify and warrant that the price offered for f.o.b. destination includes only the actual freight rate costs at the lowest and best rate and is based upon actual weight of the goods to be shipped. Standard commercial packaging, packing, and shipping containers shall be used, except as otherwise specified herein.

TAXES

All quotes shall be submitted exclusive of direct Federal, State, and local taxes; however, if the bidder believes certain taxes are properly payable, he/she may list such taxes separately in each case directly below the respective item bid price. Prices quoted must be in units specified and shall not include the cost of any such taxes, including those on any material, supplies, or equipment used or installed in the work.

[Remainder of page intentionally left blank]

BID SUBMITTAL DOCUMENT - Bid #2017-02-004

VENDOR NAME: _____.

Bid Item	Description	Item Total
1.		
2.		
3.		
4.		
5.		
6.		
Bid Total: \$		
Warranty:		

Company Name

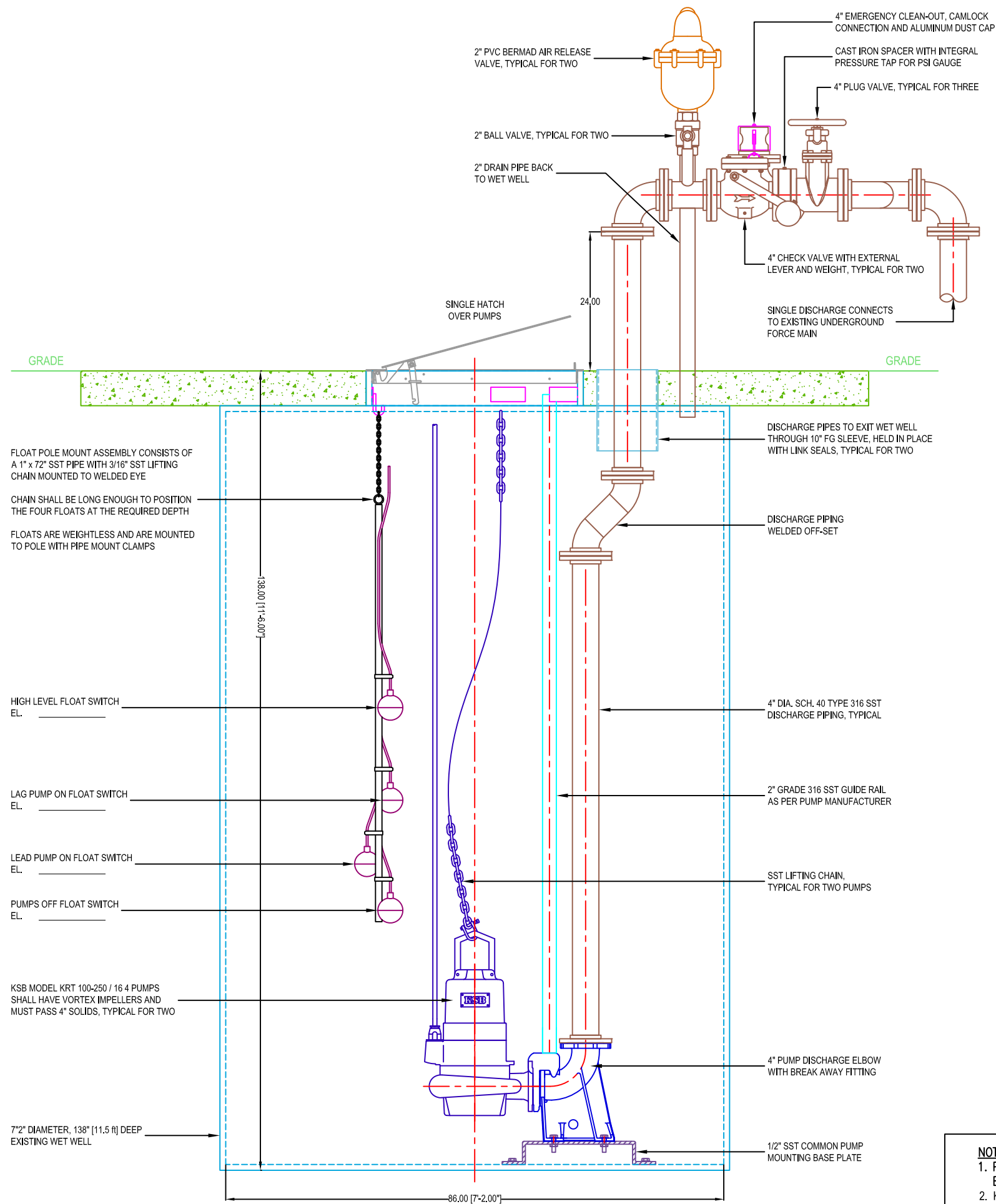
Phone

Name of Representative

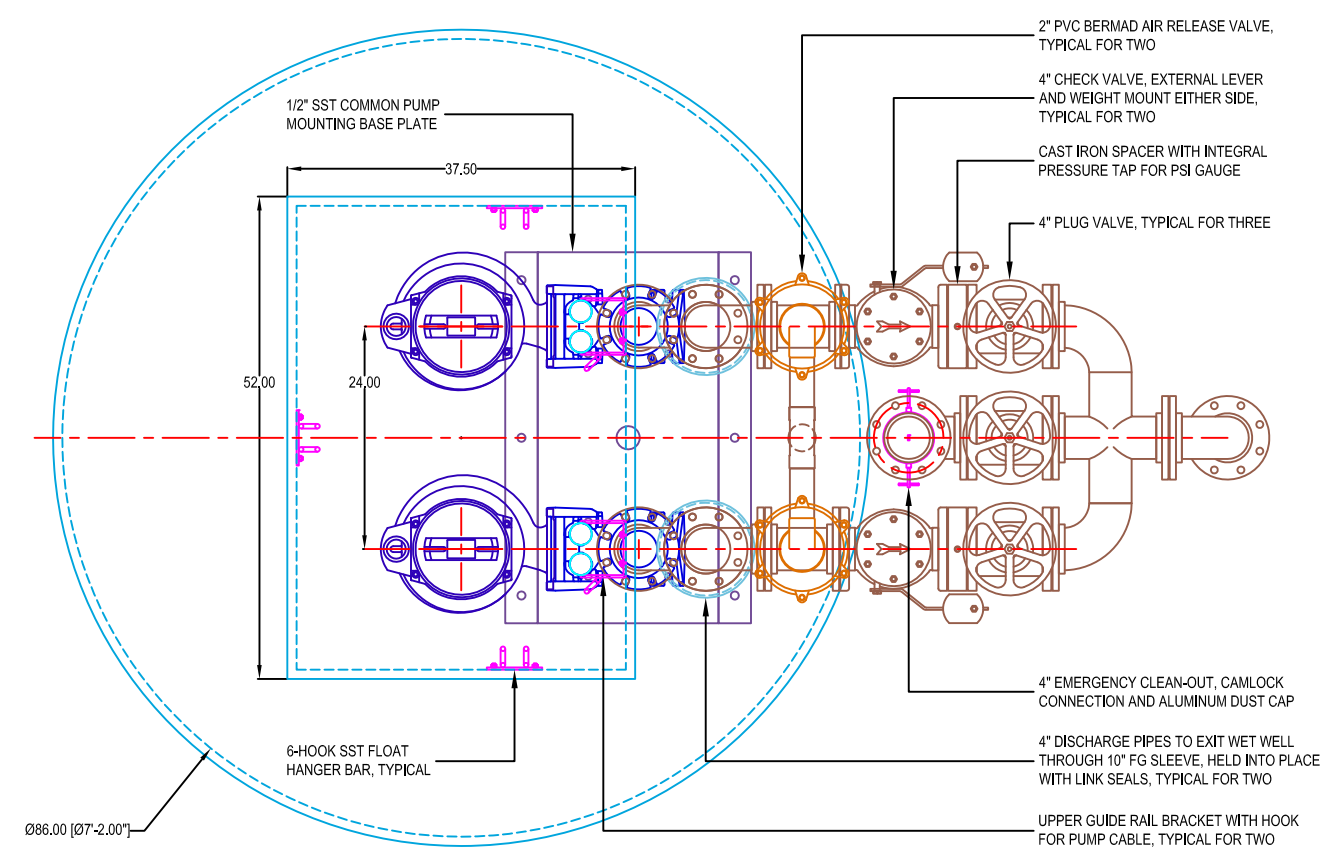
E-mail

Company Address

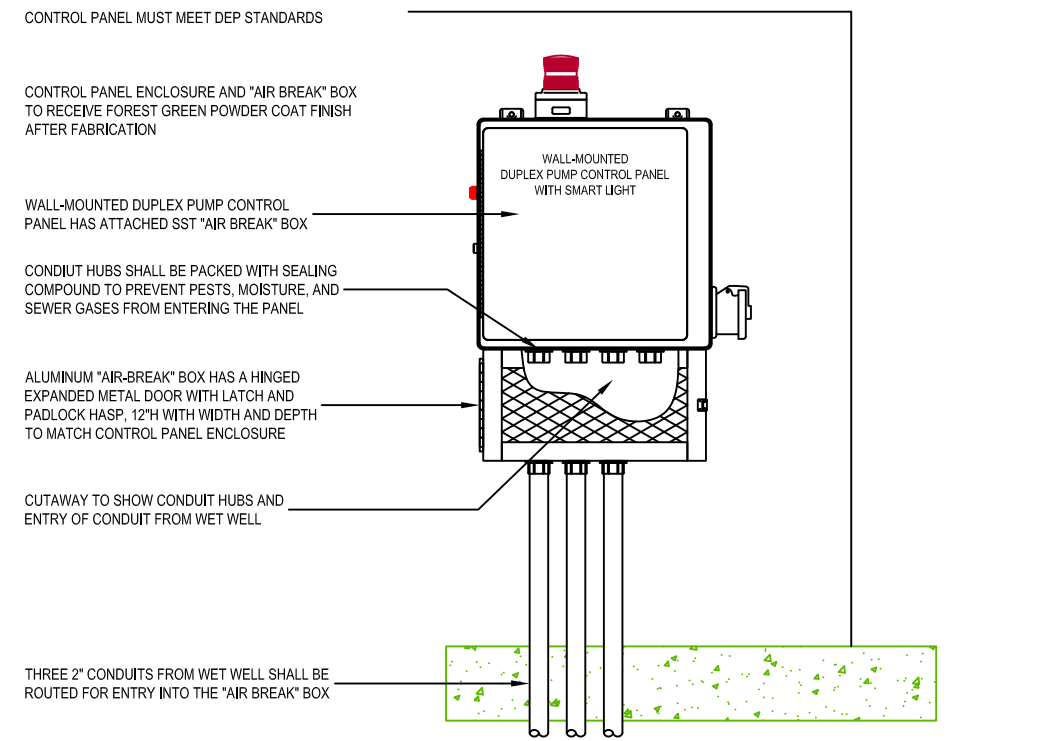
Company Address



WET WELL ELEVATION



TOP VIEW



CONTROL PANEL and AIR-BREAK BOX DETAIL

- NOTES:**
1. PUMPS MUST HAVE A 5-YEAR 100% REPAIR PARTS AND LABOR WARRANTY AS PROVIDED BY THE PUMP MANUFACTURER.
 2. KSB MODEL KRT 100-250 / 16 4 PUMPS SHALL HAVE VORTEX IMPELLERS AND MUST PASS 4" SOLIDS
 3. CONTROL PANEL MUST MEET DEP STANDARDS.
 4. CONTROL PANEL ENCLOSURE AND AIR-BREAK BOX TO RECEIVE FOREST GREEN POWDER COAT FINISH AFTER FABRICATION.

TITLE:		MUNSON HIGHWAY LIFT STATION CITY of MILTON, FLORIDA LIFT STATION UPGRADES	
CREATED BY:	DS	APPROVED BY:	BB
SCALE:	NTS	REVISION:	1
DATE:	1/09/17	SHEET:	1 OF: 1