

**ADDENDUM #19
BID NO. 2009-T**

Issue Date: September 4, 2009

Project: South Columbia County Regional Wastewater Treatment Plant

Notice to all bidders is hereby given that the following modification is made to the Request for Bids referenced above:

Specification Clarification

The following modifications have been made to the project Specifications.

Section 11265 Chemical Feed System

Paragraph 2.08.A. In the first line, delete the following words: “hydraulically-actuated.”

Section 11260 Chlorination System

Paragraph 2.02.A.1. In the first line, Change “... from white PVC sheet with ...” to the following:
“... from chemical resistant PVC sheet, polyethylene, or FRP with ...”

Section 11270 Automatic Backwash Sand Filter

Paragraph 1.01 A. Add the following sentence at the end of the paragraph: “A platform of suitable design and strength connecting the two units also shall be provided by the filter manufacturer.”

Paragraph 1.05 B. 2. Revise the paragraph to read: “The overall flow of the plant when fully built-up is 160,000 GPD. The intermittent flow to be pumped from the SBR equalization tank into the two filters during the current design phase is adjustable between 110 and approximately 200 U.S. gpm.”

Paragraph 1.05 B. 3.b. Revise the paragraph to read: “The units shall be designed with sufficient bed depth so they have the capability to accomplish 50% phosphorus removal when suitable chemical is added and 90% denitrification when sufficient carbon source is supplied.”

Paragraph 1.05 B. 3.f. Revise the paragraph to read: “The units shall be designed with hydraulic loading rate no greater than 5.2 gpm/ft² and headloss through the filter not to exceed 48" at the peak flow condition when enhanced nutrient removal is not required. The flow into the

units will be reduced to a maximum of 140 gpm which will have a corresponding maximum hydraulic loading rate of 3.64 gpm/ft².”

Section 11377 SBR

Paragraph 2.09, A. In the first line, change “10 psig” to “8.8 psig.”

Section 11360, Positive Displacement Blowers

Paragraph 1.01, B. Add “Equipment: Division 11” to the list of related work.

Paragraph 2.02, A1.a. Change the head requirement for the SBR blowers from “10 psig” to “8.8 psig.”

Section 13650 Lab Equipment

Section 13650 is hereby added to the project requirements and specifications. A copy of Section 13650 is attached to this addendum.

Each bid submitted in response to this Request for Bids shall include an acknowledgement of this addendum.

SECTION 13650

LAB EQUIPMENT

PART 1 – GENERAL

1.1 Scope

The contractor shall provide the lab equipment, materials, supplies, spare parts and services as specified in this section.

1.2 General Requirements

A. Equipment– All equipment furnished under this section of the specifications shall be new and unused and shall be the standard product of manufacturers regularly engaged in the production of such equipment. Wherever possible, equipment items having the same or similar rated capacity or function shall be identical.

B. Submissions. The Contractor shall submit seven copies of submittal data for approval prior to releasing any of the equipment items specified in this section for delivery or fabrication.

1. Shop drawing submittals shall include the following:

A detailed system loop diagram showing all connections required between component parts of each system and between the various systems specified. The loop wiring connection diagram shall show all of the components with the individual electrical terminal blocks numbered and piping connections tagged with identifying numbers. Tabulated wiring number sheets and terminal block numbering sheets will not be accepted. Each wire shall be identified by number on the as-built copies of these connection diagrams and furnished to the Owner as part of the O&M Manuals.

D. Operation and maintenance manuals, in accordance with the provisions of the GENERAL CONDITIONS, shall also be supplied. Operating and Maintenance instructions shall be supplied for each component of the instrumentation system in one 3-ring binder with a suitable index for locating the applicable manual for each component. The model numbers of the instruments supplied will be tabulated for

a cross-reference so that the applicable sections of the maintenance manuals can be determined. A list of manufacturer's recommended spare parts list shall be provided for each instrument. Any special calibration or maintenance requirements peculiar to this system shall be clearly defined.

- E. Tagging. All components shall be tagged with the tag number and nomenclature given in the specifications.
- F. Guarantee. The Contractor shall furnish to the Owner a written one year guarantee covering material and workmanship for all equipment and parts supplied under this section of the specifications. The guarantor will, upon notice, without undue delay, and without expense to the Owner, repair or replace any equipment considered defective by the Engineer within this period. The one year guarantee period will be extended on repaired or replaced parts to one year from the date of acceptance of the repaired or replaced parts.

2.1 Instrument Components

A. Dissolved Oxygen Meter

1. The dissolved oxygen meter shall be a portable microprocessor based instrument. The meter shall read dissolved oxygen in the range of 0.00 to 20.00 mg/l (ppm) and 0.0 to 200.0% saturation with accuracy of $\pm 1.5\%$ full scale. The meter shall be automatically temperature-compensated between 0 and 50 degrees C. The meter shall be equipped for salinity corrections in the range of 0.0 to 50.0 ppt. The meter shall have the ability to store and recall data. The meter shall have electrode diagnostics to help determine when electrode needs replacing or servicing. The probe shall be galvanic in type with no warm-up required for operation. The probe shall have a cable length of 10 feet or longer. The interface power shall be battery driven with AC adaptor.
2. The contractor shall provide one (1) meter with three (3) probes, three (3) sets of membrane assembly, and six (6) months' supply of zero oxygen calibration solution for daily calibration.
3. The Dissolved Oxygen Meter shall be Oakton 3 pc. Model WD-35640-22 DO 300 meter and WD-35640-50 DO probe with 10 ft cable or equivalent.

B. pH/ORP Meter

1. The pH/ORP meter shall be a portable microprocessor based instrument. The meter shall read pH in the range of -2.00 to 16.00 pH with an accuracy of ± 0.01 pH. The meter shall read ORP in the range of -2000 mV to +2000 mV with an accuracy of ± 0.2 mV. The meter shall automatically compensate for temperature change from 0 to 100 degrees C and the ability to store and recall data. The meter shall be waterproof and the pH probe shall be submersible with a minimal 10 foot cable. The ORP probe shall be epoxy-body with 3 foot cable minimal.
2. The contractor shall provide one (1) meter with three (3) pH probes, three (3) ORP probes, and six (6) months' supply of buffer solution pouches assortment for daily calibration.
3. The pH/ORP meter shall be Oakton Model: WD-35648-12 pH 310 meter with WD-35805-24 pH probe and WD-35805-15 ORP probe or equivalent.

C. Glassware

1. All glass beakers shall meet ASTM E-960 Type 1 specifications for classification, design, capacity & dimensions, and markings. All beakers shall be made of high-quality borosilicate tubing. All graduated cylinders shall meet ASTM E 1272 Class A, Style 1 Specifications.
2. All graduated cylinders shall have an extra protective bumper guard. Graduated cylinders of 500mL shall have a tolerance of ± 2.00 mL and graduation interval of 5.0mL. Graduated cylinders of 1000mL shall have a tolerance of ± 3.00 mL and graduation interval of 10.0mL.
3. The contractor shall provide glassware the following glassware of the specified or equivalent models:
 - a. Six (6) 500mL glass graduated cylinders. SIBATA model: 2351A-500, Class A
 - b. Six (6) 1000mL glass graduated cylinders. SIBATA model: 2351A-1000, Class A
 - c. Twelve (12) 600mL glass graduated beakers. VEE GEE Model: 20229-600

D. Magnetic Stirrer

1. The contractor shall provide two (2) magnetic stirring plates and twelve (12) pieces of magnetic stir bar.
2. The magnetic stirring plates shall have 4x4 inch ceramic top with an adjustable range from 50-1200 RPMs with rapid braking. The stirrers shall be powered by 115v AC.

3. The stirrer shall be Hach Model 2881200 or equivalent. Magnetic stir bars shall be one (1)-inch sized. Hach Model 2928603 or equivalent.

END OF SECTION