

Roane County is inviting sealed bids for the good(s) and/or service(s) listed below, subject to the terms and conditions of the Invitation to Bid (ITB), the accompanying specifications, and the Roane County Purchasing Manual.

At the appointed time bids will be publicly opened in the office of the Roane County Purchasing Agent at the above address. Bids arriving in the Purchasing Department past the appointed date and time will be considered late and will not be opened.

Deliver Bids To:

ROANE COUNTY PURCHASING DEPARTMENT
200 EAST RACE STREET, SUITE #3
KINGSTON, TENNESSEE 37763

**Bid Number: B2014-50/204
COMPOSIT SAMPLER**

Open Date & Time: July 8, 2014 at 2:00 p.m. (Eastern Time Zone)

The Bid Envelope must show the Bid Number, Name & Opening Date.

PURCHASING CONTACT INFORMATION

Lynn Farnham, CPPB
Purchasing Agent
Phone: 865-376-4317
Fax: 865-376-4318
Email: lfarnham@roanegov.org

GENERAL TERMS & CONDITIONS

1. Attached are instructions and conditions for submitting a bid for Roane County Government. The objective of this bid is to select suppliers in such a manner as to provide for open and free competition and comparability.

BID PREPARATION & SUBMISSION

1. Bidders are expected to examine any drawings, specifications, terms and conditions, general or special conditions, schedules and all instructions for the purpose of this bid. Failure to do so will be at the bidder's risk.
2. The total bottom line cost will be determined by multiplying each item bid price times the quantity requested and adding the extended dollar figures.
3. All bids shall be in accordance with the instructions to bidders and specifications included in this ITB. Specifications are intended to be open and non-restrictive.
4. All columns of the bid document must be completed in ink or typewritten. The bottom line total (sum of extended prices) must also be printed in ink or typewritten on the proposal form. No erasures shall be permitted. Errors may be crossed out and corrections printed in ink or typewritten and must be initialed in ink by the person signing the bid.
5. All bids must meet or exceed the enclosed specifications. Bidder must indicate the manufacturer's name and model number offered. If bidder fails to provide this information, and an award is made, then the bidder shall supply the item(s) as specified. All items supplied by the successful bidder shall be new and unused and meet all OSHA standards. Items delivered not meeting these requirements shall be subject to return and replaced at no additional cost to Roane County. Any exceptions to the specifications must be clearly noted, documented and have prior approval to be submitted as an approved alternate.
6. The use of the name of a manufacturer, brand, model or make used in describing an item does not restrict the bidder to that manufacturer. Others will be considered if they meet or exceed the items specified. When an alternate manufacturer, brand, model or make will be bid, five (5) days prior to the bid the bidder must submit documents to the Purchasing Agent, for evaluation of the product. Roane County will determine if the item does meet or exceed the item as specified.
7. It shall be the sole responsibility of the bidder to make certain that all bids in proper form are submitted to the Purchasing Department as described below.
8. Delivery charges are to be prepaid and included in the bid pricing.
9. All original forms must be signed by a person with authority to bind the bid. The bid must be sealed in an envelope that is labeled according to the directions stated below.
10. On the outside of the envelope/package mark the bid as follows:
 - Vendor Name & Address
 - Bid Number
 - Bid Date & Time
11. The bid must then be in a sealed envelope/package mailed or delivered to the following address:

Roane County Purchasing Department
200 East Race Street, Suite #3
Kingston, Tennessee 37763

Please note that Roane County does not receive a guaranteed delivery time for express mail and/or packages. Please mail accordingly.

12. Sealed written bids will be received at the time and place specified on the Invitation to Bid. Postmark on the Bid by this date will not suffice. Bid must be received on or before the date and time stated. Faxed bid documents will not be accepted.

LATE RECEIPT OF THE BID

1. The bid and modifications or withdrawals thereof received after the time set for opening will not be considered, unless they are received before the award is made and it is determined by Roane County that failure to arrive on time was due solely to a delay in delivery for which the bidder has no responsibility. Roane County does not receive a guaranteed delivery time for express mail and/or packages. Please mail accordingly.
2. Bids must be in the Purchasing Department prior to 2:00 p.m. on the appointed date. Time will be determined by the clock in the Roane County Purchasing Department and once Purchasing Agent/or their designee determines the time is 2:00 p.m., no other bids will be accepted.

BID PERIOD

1. The contract will be awarded for the period of one (1) year from the date of bid opening. Roane County reserves the right to purchase additional items against this bid on an "as needed" basis if pricing remains the same.

RESTRICTIVE OR AMBIGUOUS SPECIFICATIONS

1. It is the responsibility of the bidder to review the entire Invitation to Bid document and to notify the Purchasing Agent if the Invitation to Bid is formulated in a manner that would unnecessarily restrict competition or if it is ambiguous in what is being requested.
2. Pursuant to TCA §12-4-126, questions regarding the specifications or bid procedures must be received by the Purchasing Agent and/or designer no less than ninety-six (96) hours before the bid opening date. No addenda will be issued within less than forty-eight (48) hours of the bid opening day, excluding weekends and legal holidays designated in §15-1-101 unless the bid opening is extended for a reasonable time as determined by the purchasing agent, which shall not be less than forty-eight (48) hours excluding weekends and legal holidays designated in §15-1-101, to allow for any necessary changes to the Invitation to Bid documents and to allow responders to resubmit their responses accordingly.
3. Any questions concerning this Invitation to Bid are to be faxed to the Purchasing Department. Questions will be answered via addenda. Information obtained from any office other than the Purchasing Office is not to be considered binding.

BID OPENING & AWARD

1. Only the bottom line figure will be read at the bid opening. Bids will also be examined for compliance with specification and conditions outlined in the bid document.
2. Consideration will be given to all bids properly submitted. Bids will receive appropriate confidentiality before awarding. Upon award, bid documents and tabulations will be available for review. Errors discovered after public opening may not be corrected, and the bidder may be bound to honor bid as submitted. After investigation of the nature of the mistake, the Purchasing Agent may allow the bid to be withdrawn.

3. The contract will be awarded in writing to the most responsive bidder whose bid conforms best to the Invitation to Bid will be most advantageous to Roane County. It is the intent of Roane County to involve and utilize the best product/services at the best prices and provide small and minority firms, women's business enterprises and labor surplus area firms with increased opportunity to do business with the county. However, currently there are no set asides for small or minority firms.
4. Roane County reserves the right to accept or reject any or all bids and to waive informalities and minor irregularities in the bids received.
5. Roane County reserves the right to award the bid in its entirety or to divide the award in any way that will be more advantageous to the county.
6. Bid results will be posted on the County's website along with the bid tabulation.

PROTEST PROCEDURE

1. If a prospective vendor does not agree with the bid award, they have the right to protest. Disputes arising from the award of this bid must be submitted in writing to the Roane County Purchasing Department no later than seven (7) days from date of bid award. The steps for dispute resolution may include:
 - A meeting with the Purchasing Agent, the requisitioning department's manager and representatives from the disputing party to discuss and resolve the complaint.
 - Information from the aforementioned meeting will be forwarded to the County Attorney for review.
 - A written decision letter stating the reasons for the decision will be prepared by the Purchasing Agent and submitted in writing to the protestor and all parties involved.
 - Purchases will not be allowed under this procurement until a final decision is rendered.
 - In the event that purchases must be made before a final decision is rendered, the emergency purchase procedures will be used.

APPROPRIATION

1. In the event no funds are appropriated by Roane County for the goods or services in any fiscal year or insufficient funds exist to purchase the goods or services, then the contract shall expire upon the expenditure of previously appropriated funds or the end of the current fiscal year, whichever occurs first, with no further obligations owed to or by either party.

VENDOR QUALIFICATION

1. Potential bidders must meet the following criteria:
 - Be able to provide a quality product as specified
 - Offer reasonable pricing
 - Provide dependable delivery of items ordered
 - Meet specifications and bid conditions
 - Demonstrate successful past performance
2. A potential bidder may be rejected for one or more of the following reason:
 - Inadequate or unacceptable product lines
 - Bidding remanufactured or reconditioned items
 - Bidding alternate to approved item without notice prior to bid opening
 - Documented unacceptable product

INSURANCE

1. The contractor will maintain, at their expense adequate insurance coverage to protect them from claims arising under the Worker's Compensation Act, from claims for damages resulting from bodily injuries and damage to their property, for Bodily Injury and Property Damage Liability in the amount of no less than \$1,000,000, for Products and Completed Operations Liability of no less than \$1,000,000 and from claims for damage to any Roane County property. Additional insurance requirements may be listed any Special Terms & Conditions or in the Bid Specifications. This insurance company shall have a Best's rating of A or better. Any deviations from the above requirements must be disclosed in the bid submission.
2. The successful bidder shall furnish a Certificate of Insurance issued by their insurance company showing that Roane County as an additional insured. Carrier will assume full common liability of all shipments.

COMPLIANCE WITH ALL LAWS

1. Contractor is assumed to be familiar with and agrees to observe and comply with all federal, state, and local laws, statutes, ordinances, and regulations in any manner affecting the provision of goods and/or services, and all instructions and prohibitive orders issued regarding this work and shall obtain all necessary permits.

GOVERNING LAW

1. This contract shall be governed by the laws of the State of Tennessee, and all obligations of the parties are performable in Roane County, Tennessee. The Courts in Roane County shall have exclusive and concurrent jurisdiction of any disputes which arise hereunder.

BUSINESS LICENSES

1. Bidders located in Tennessee are required to have a current business license issued by the State of Tennessee at the time the bids are submitted. Vendors located outside Tennessee are required to obtain a business license issued by the State of Tennessee.
2. A Business Tax & License Affidavit is required to be submitted with the bid.

INDEMNIFICATION/HOLD HARMLESS

1. Contractor shall indemnify, defend, save and hold harmless all departments of Roane County Government and/or the Roane County Board of Education, its officers, agents and employees from all suits, claims, actions or damages of any nature brought because of, arising out of, or due to breach of the agreement by Contractor, its subcontractors, supplier, agents or employees or due to any negligent act or occurrence or any omission or commission of the contractor, its subcontractors, suppliers, agents or employees until the contract terminates.

VENDOR PERFORMANCE

1. If the contractor fails in full or part to perform or comply with any provision of this Contract or the terms or conditions of any documents referenced and made a part hereof, Roane County may terminate this contract, in whole or in part, and may consider such failure or noncompliance a Breach of Contract. Contractors with poor performance will be notified at the time of such performance and be given opportunity to correct the problems. Documentation will be kept on file. Any contractor with continued poor performance will be removed from the potential vendor list for one year.
2. Roane County expressly retains all its rights and remedies provided by law in case of such breach, and no action by Roane County shall constitute a waiver of any such rights or remedies. In the event of termination for default, Roane County reserves the right to purchase its requirements elsewhere, with or without competitive bid.
3. Failure to deliver within the time specified or within a reasonable amount of time, or failure to make replacements of a rejected item immediately will constitute authority to purchase on the open market so as to replace the item(s) rejected and/or not received. On all such purchases, the Vendor agrees to promptly reimburse the county for excess costs incurred by such a purchase.
4. Reasons for product rejection may be any one of the following:
 - Quality
 - Price
 - Serviceability of item (damage)
 - Product does not meet bid specifications

BREACH OF CONTRACT

1. A party shall be deemed to have breached the contract if any of the following occurs:
 - Failure to provide products or services that conform to contract requirements.
 - Failure to maintain/submit any report required hereunder.
 - Failure to perform in full or in part any of the other conditions of the contract.
 - Violation of any warranty.

CONTRACT TERMINATION FOR CAUSE

1. If the contractor fails to properly perform its obligations under this contract in a timely or proper manner, or if the contractor violates any terms of this contract, the county shall have the right to terminate the contract and withhold payments in excess of fair compensation for completed services.
2. In the event the contract is terminated for due cause by the county, the county shall have the option of awarding the contract to the next lowest bidder or bidding again.

CONTRACT TERMINATION FOR CONVENIENCE

1. The county may, by written notice to the contractor, terminate this contract without cause for any reason. Said termination shall not be deemed a Breach of Contract by the county. The county must give notice of termination to the vendor at least thirty (30) days prior to the effective date of termination. The contractor shall be entitled to receive compensation for satisfactory, authorized service completed as of the termination date, but in no event shall the county be liable to the contractor for compensation for any service which has not been rendered. Upon such termination, the vendor shall have no right to any actual general, special, incidental, consequential, or any other damages whatsoever of any description or amount.

BOOKS AND RECORDS

1. The contractor shall maintain all books, documents, accounting records and other evidence pertaining to the goods and services provided under this contract and make such materials available at its offices at all reasonable times during the contract period and for three (3) years from the date of the final payment under this agreement for inspection by county or by any other governmental entity or agency participating in the funding of this agreement, or any authorized agents thereof; copies of said records to be furnished if requested. Such records shall include those books, documents and accounting records that represent the vendor's costs of manufacturing, acquiring or delivering the products and services governed by this agreement.

DELIVERY

1. All items included in this Invitation to Bid is to be delivered with no evidence of damage. The successful bidder agrees to be responsible for damaged packaging and to replace any damaged components or equipment at no charge.
2. Roane County shall retain the right to reject any or all of a delivery that does not meet product specifications. Rejected items are to be picked up at the supplier's expense.

INSPECTION AND ACCEPTANCE

1. Warranty periods shall not commence until Roane County inspects and formally accepts the goods and/or services. The terms, conditions and timing of acceptance shall be determined by Roane County. Roane County reserves the right to reject any or all items or services not in conformance with applicable specifications, and contractor assumes the costs associated with such nonconformance. Acceptance of goods or services does not constitute a waiver of latent or hidden defects or defects not readily detectable by a reasonable person under the circumstances.

INVOICES AND PAYMENTS

1. Payment will be made within 30 days after receipt of invoice and/or delivery of items included in this Invitation to Bid, whichever is later.
2. Roane County Government is not subject to taxation. A tax exemption certificate will be provided upon request.

NONDISCRIMINATION AND NON-CONFLICT STATEMENT

1. Contractor agrees that no person on the grounds of handicap, age, race, color, religion, sex or national origin, shall be excluded from participation in, or be denied benefits of, or be otherwise subjected to discrimination in the performance of this agreement, or in the employment practices of vendor. Contractor shall upon request show proof of such nondiscrimination, and shall post in conspicuous places available to all employees and applicants notices of non-discrimination. Contractor covenants that it complies with the Fair Wage and Hour Laws, the National Labor Relations Act, and other federal and state employment laws as applicable. Contractor covenants that it does not engage in any illegal employment practices.
2. Contractor covenants that it has no public or private interest, and shall not acquire directly or indirectly any interest; that would conflict in any manner with the provision of its goods or performance of its services. The contractor warrants that no part of the total contract amount provided herein shall be paid directly or indirectly to any officer or employee of Roane County as wages, compensation, or gifts in exchange for acting as officer, agent, employee, subcontractor or consultant to contractor in connection with any goods provided or work contemplated or performed relative to the agreement.
3. No employee or member of the Roane County's governing bodies shall participate in the selection or award of a contract if a conflict of interest, real or apparent, would be involved.
4. Officers, employees or officials of the Roane County Government shall neither solicit nor accept gratuities, favors or anything of more than nominal monetary value from vendors or parties to subcontracts.

Bid Number: B2014-50/204 – COMPOSIT SAMPLER

VENDOR INFORMATION SHEET

(Please fill out completely)

By completing and signing this form you certify that you are an authorized representative of the company for which you are submitting a bid/proposal and that you have the authority to legally bind your company. Further, by completing and signing this form you certify that you agree to all the terms and conditions of this bid/proposal.

1. Vendor Name _____

2. Address _____

City _____ State _____ Zip Code _____

3. Contact Person (Please Print) _____

4. Telephone Number _____ Fax Number _____

5. Vendor's e-mail address _____

6. Authorizing Signature _____

7. Title of Person Signing Bid _____

8. If addenda were issued, please acknowledge the receipt of: (please write "yes" if you received one)
Addendum 1 _____ Addendum 2 _____ Addendum 3 _____ Addendum 4 _____

9. If applicable, please indicate below if discounts will be allowed for prompt payment or if there is not discount offered:
_____ % Net 10 Days; _____ % Net 20 Days; _____ % Net 30 Days; _____ No Discount

COOPERATIVE PURCHASING - Vendors are to indicate if it is permissible for other governmental agencies in the State of Tennessee to purchase these items or services at the same price. Freight charges may be adjusted to reflect differences in delivery costs to other locations. Please indicate the approval of Cooperative Purchasing.

_____ Yes _____ No

SCHOOL CONTRACTS ONLY

CRIMINAL HISTORY RECORDS CHECK – Do you agree to comply with Public Chapter 587 of 2007 which requires all contractors to facilitate a criminal history check, including fingerprinting, conducted by the Tennessee Bureau of Investigation and the Federal Bureau of Investigation for each employee or subcontractor personnel before permitting the employee or subcontractor personnel to have contact with students or enter school grounds?

_____ Yes _____ No

**Bid Number: B2014-50/204 – COMPOSIT SAMPLER
NON –COLLUSION, INDEPENDENT PRICE DETERMINATION,
NON-DISCRIMINATION, NON-DEBARMENT & LOBBYING AFFIDAVIT**

I do hereby certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud.

I understand that collusive pricing is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards and that no collusion with another firm was used in preparation of this bid.

I also certify that this firm does not discriminate against any employee or applicant for employment on the grounds of race, color, national origin or sex; and does not and will not maintain or provide for his employees any segregated facilities at any of its establishments, and further, that the firm does not and will not permit their employees to perform their services at any location under this contract where segregated facilities are maintained.

By submission of this bid, the bidder certifies that neither it or its principals is presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal or State department or agency.

I further certify that during the Invitation to Bid solicitation and/or during the performance of this contract that neither it nor its principals will participate in lobbying activities in conjunction with this project.

I agree to abide by all terms and conditions of this Invitation to Bid and certify that I am authorized to sign this affidavit for the vendor.

Please indicate which of the following apply to your company. This information is requested for information purposes only. Roane County currently has no policy that allows for set asides or preferences for woman owned or minority owned businesses.

African American Owned
 Caucasian Owned
 Native American Owned
 Other Owned

Asian Owned
 Hispanic Owned
 Woman Owned

Signature

Title

**Bid Number: B2014-50/204 – COMPOSIT SAMPLER
BUSINESS TAX & LICENSE AFFIDAVIT**

Please sign the affidavit below stating that your company does have a Business License and that your Business Taxes are current. Companies located outside the State of Tennessee are required to have a Business License in Tennessee.

The undersigned states that he/she has legal authority to swear this on behalf of _____ (Vendor); and that Vendor is not in any manner in violation of *Tennessee Code Annotated, §5-14-108(l)* which provides that “no purchase shall be made or purchase order or contract of purchase issued for tangible personal property or services by county officials or employees, acting in their official capacity, from any firm or individual whose business tax or license is delinquent”.

Affiant affirms and warrants that Contractor’s licenses are currently valid and all business taxes have been paid and are current as of the date of this affidavit. Contractor is licensed and pays business taxes in _____ County, Tennessee.

VENDOR

By: _____

Title: _____

Date: _____

Witness: _____

Date: _____

**Bid Number: B2014-50/204 – COMPOSIT SAMPLER
SPECIFICATIONS**

SECTION 11001
5800 Refrigerated Sampler
Engineering Specifications
Released: September 2012.
PART [] PRODUCTS

Manufacturer

Wastewater sampling equipment, by any Manufacture meeting these specifications

Functional Design

The automatic refrigerated wastewater sampler shall be furnished for sequential and composite sampling applications, and shall be suitable for indoor or outdoor installation without the requirements for additional enclosures for weather protection. The sampler shall be capable of collecting samples from a variety of liquid sources including open channels, sewers, and storm water conduits. The sampler will route samples to storage containers for collection and off-site analysis. The sample stream will be a direct path from sample source to sample bottle. Samples will not pass through metering chambers or other diversions. The sampler shall be suited to collect priority pollutant or general purpose samples in multiple bottles or a single bottle. The sampler will be line (AC) powered (115 volt 60Hz or 230 volt 50Hz).

Refrigerator

1. The refrigerator shall cool to a setpoint selectable from 34 to 48°F (1 to 9°C), with a setpoint stability of ± 1 °C over a 48 hour period.
2. The refrigerator shall have a 5 minute typical recovery time to return to 39°F (4°C) after the door has been opened for 1 minute in 75°F (24°C) ambient conditions.
3. The collected samples shall be stored in an enclosure capable of operating in ambient temperatures from -20°to 120°F (-29° to 49°C).
4. Built-in heaters shall prevent collected samples from freezing if the ambient air temperature drops below freezing.
5. For single bottle composite sampling only, the refrigerator can, upon program initiation, drop the temperature within the sample compartment by 2.5° C below the set temperature for the first 24 hours of operation before resuming normal operation.

Controller

1. The sampler's memory shall maintain the program settings, stored programs, and the results of the last two sampling sequences when the sampler is turned off or an external power interruption occurs.
2. A user-initiated diagnostics routine shall indicate the operational status of the sampler. The controller will display any error conditions detected by the diagnostic routines.
3. The current refrigeration temperature shall appear on the sampler's display, and temperature readings shall be stored in a report.
4. The controller shall be able to automatically switch input power to a connected battery in the event of a loss of AC power.
5. Sample volumes shall be selectable between 10 and 9,990 ml in 1ml increments.
6. The sampler shall be capable of being programmed to rinse the suction line with the source liquid up to three times.

7. The sampler shall typically deliver sample volumes with an accuracy of ± 10 ml or $\pm 10\%$, whichever is greater, of the programmed value. The typical sample volume repeatability shall be ± 5 ml or $\pm 5\%$, whichever is greater, of the average of the maximum and minimum sample volume in the sample set.
8. The sampler shall collect sequential or composite samples at user-definable intervals and volumes. A delay to first sample collection shall be programmable by the real-time clock.
 - i. **Time Pacing**
The sampler will use an internal real-time clock to provide time and date information. Uniform time-paced samples shall be collected at regular time intervals from 1 minute to 99 hours 59 minutes. Sample volumes may be equal or variable in proportion to flow.
 - ii. **Flow Pacing, DC Pulse**
The sampler shall accept a 5 to 15 VDC flow proportional pulse or isolated dry contact closure, at least 25 ms in duration, from an external flow meter for flow pacing. Samples shall be equal in volume and shall be taken at variable times proportional to flow. The number of flow pulses shall be selectable, from 1 to 9,999 pulses, as the flow interval for each sample collection.
 - iii. **Flow Pacing, Analog Input**
The sampler shall have a standard 4-20mA flow proportional input compatible with most flow meters without additional interfacing. Samples shall be equal in volume and shall be taken at variable times proportional to flow.
 - iv. **Flow-Weighted Volumes, DC Pulse**
The sampler shall accept a 5 to 15 VDC flow proportional pulse or isolated dry contact closure, at least 25 ms in duration, from an external flow meter. Samples shall be taken at equal time intervals, and variable sample volumes shall be proportional to cumulative flow.
 - v. **Flow-Weighted Volumes, Analog Input**
The sampler shall have a standard 4-20 mA flow proportional input compatible with most flow meters without additional interfacing. Samples shall be taken at equal time intervals, and variable sample volumes shall be proportional to cumulative flow.
9. **Sampler**
The sampler shall have 3 selectable modes of sample distribution.
 - vi. Samples per bottle mode: The sampler shall be capable of placing a sample volume from one or more sample events in a bottle.
 - vii. Bottles per sample mode: The sampler shall be capable of filling all sample bottles with a single initiation.
 - viii. Multiple bottle composite mode: The sampler shall be able to simultaneously create a user-selected set of bottles for depositing of multiple samples, switching bottles after a programmed period of time has elapsed, or a programmed number of samples has been collected.
10. **Sampler Outputs**
 - ix. The sampler shall have four standard digital alarm outputs capable of direct wiring to a Programmable Logic Controller (PLC) or data logger (5 volt, 100 mA).
 - x. Output alarms shall include: Program started, Program completed, Pump error, Distributor jammed, 3-way valve controlⁱ, Taking sample, Pumping forward, Powered up, Pumping reverse, Bottle full, and Delay before sample.
 - xi. The sampler shall output an event mark of 12VDC for a duration of 3 seconds, beginning at the start of forward pumping, from the flow meter connector.
 - xii. The sampler shall store a one-minute temperature data report retrievable by an IBM-compatible computer using a terminal emulator tool such as Tera Term (not provided by). The program shall include failsafe loading with site ID codes to prevent field errors due to multiple files.

11. Pump

Samples will be collected via a peristaltic pump. This pump shall produce typical line velocities of 3.0 feet per second in a 3/8 inch (0.95 cm) ID suction line at 3 feet (1 m) of head. At 25 feet (7.6 m) of head, the pump shall typically produce a line velocity of 2.2 feet (0.67 m) per second. The pump shall be capable of lifting a sample a maximum of 28 feet (8 m).

- xiii. Before and after each sample is collected, the pump shall air-purge the suction line. Pre-purges and post-purges will be automatically controlled, and no pre-calibration adjustments are required.
- xiv. With the opening of the pump's latch and band, all power will be removed from the sampler's pump motor, to eliminate the possibility of a pump activation injuring personnel.
- xv. The liquid detection system shall minimize the effects of changing head, intermittent flow in the suction line, or variable battery conditions on sample volume.
- xvi. After initial detection of liquid, the sensor shall monitor for the presence of liquid during the sample collection sequence. In composite mode without use of a distributor arm, this feature can be used for full bottle detection during the post-purge cycle.
- xvii. The liquid detector shall monitor for anomalies in the sample collection process. If no liquid is detected, the sampler shall be capable of retrying the sampling sequence up to three times.
- xviii. After liquid detection, the pump revolution counter shall count actual pump revolutions to determine sample volume delivery to the storage containers. If liquid flow is interrupted during the sample collection sequence, the detector shall inhibit the pump revolution counter from incrementing until liquid flow is restored. Automatic compensations for air slugs in the sample shall be made by the delivery system. Additionally, the pump revolution counter shall monitor the total number of pump revolutions and alert the user when a pre-selected number of counts has been reached to alert the user of the need for pump tubing replacement. One pump revolution is equivalent to 12 pump counts. This indicator shall appear on the controller display screen.

Equipment Description

A. Sampler

1. The top section housing the control panel, pump, distributor electronics, and power supply box shall be rated NEMA 4X, 6, and IP 67.
2. The sampler shall include long-life electronic temperature sensing devices that measure the refrigeration compartment and evaporator plate temperatures. A microprocessor will utilize this sensor to control operation of the compressor, built-in heaters, and the self-defrosting cycle of the evaporator plate.

B. Refrigerator

The shell of the refrigerator shall be constructed of rotationally molded UV-resistant polyethylene with molded-in-place thermal insulation, providing exceptional resistance to corrosion and weathering. The top of the refrigerator door shall be recessed for ease of access from above. For 24 bottle configurations, the bottle rack shall slide out for ease of sample recovery. The copper refrigeration lines, condenser coil, and evaporator plate will be powder-coated with heat-treated polyester, and then painted with a rust converter paint overcoat, for additional corrosion resistance.

The refrigerator's door shall have hasps capable of accepting a padlock to prevent unauthorized tampering with the sample compartment contents. A compression gasket will be used to

seal the refrigerator door. The refrigerator power supply and solid-state thermostat shall be contained in an epoxy-potted enclosure housed in a discrete compartment of the sampler's molded frame. All exposed metal components used in the construction of the refrigeration system shall be either plated aluminum or stainless steel.

The refrigerator will use a condensing coil with forced-air cooling.

The compressor is rated at (1/5 Hp for 150V)(1/4 Hp for 230V).

The refrigeration system will contain HFC-134a refrigerant, a non-CFC refrigerant with an ozone depletion potential of zero.

Controller

1. The controller shall be housed in a discrete compartment of the sampler's molded frame beneath a flip cover.
2. The controller will show sampler status and program information via a 2-row, 20-column, 40 total character display. This display shall be angled for easy viewing, and backlit for easy use in all light conditions. All programming and manual control of the sampler will be entered via an 18 position keypad.
3. The controller shall not require a separate heater.
4. Pump
 - i. The modular peristaltic pump shall be housed in a discrete compartment of the sampler's molded frame, beneath a latched cover. The pump casing shall be constructed of high strength Noryl plastic and designed for corrosion resistance.
 - ii. The pump shall include a latched housing cover and thumbscrew opening for the replacement of pump tubing. The pump shall include a built-in magnetic safety interlock.
 - iii. The pump shall include an optional heaterⁱⁱ, housed beneath the pump cover, for the prevention of liquid freezing inside the pump under extremely cold conditions. A heater shall be available for both 115VAC and 230VAC samplers.
 - iv. Liquid Detector
The sampler will sense the presence of the liquid via a non-wetted, non-conductive detector. The sensor shall not be dependent on, or affected by, any chemical or physical property of the liquid or its contents. The sensor shall not require routine maintenance or cleaning.
 - v. The pump tubing used shall be specially treated to minimize water extractable pollutants. Specially designed bands shall indicate the correct placement of the tubing inside the pump. The tubing shall typically last for a minimum of 1,000,000 pump counts.

Distributor

The modular distributor shall be housed in a discrete compartment of the refrigerator's molded frame. Sample distribution will be belt-driven by a stepper motor. Positive location of the distributor arm will be achieved using an optical sensor. One of two available fixed-length distributor arms will be used for all bottle configurations and sampler mounting possibilities. The distributor arm may be moved by hand for ease of sample recovery, and shall relocate itself before the next sample is taken.

Suction Lines and Strainers

The sampler will utilize a suction line and strainer for taking samples. The suction line shall be made of {[3/8 inch (.95 cm) ID vinyl] [3/8 inch (.95 cm) ID PTFE lined polyethylene] with a length of _____ feet}.ⁱⁱⁱ [The suction line shall have a factory-installed standard 3/8" weighted polypropylene strainer, or an optional (all stainless steel strainer for 3/8" (0.95cm) line) (all CPVC weighted strainer for 3/8" (0.95cm) line)].^{iv}

Sample Collection Containers

The sampler shall be supplied with sample collection container(s). The container(s) shall be [(1 round 10L polyethylene)(1 round 10L glass)(1 round 20L polyethylene)(1 round 20L glass)(2 round 10L polyethylene)(2 round 10L glass)(4 round 10L polyethylene)(4 round 10L glass)(4 square 20L polyethylene)(24 wedge 1L polypropylene)(24 round 350ml glass)]^v.

-
- ⁱ Specify optional pressurized line capability.
 - ⁱⁱ Specify optional pump heater.
 - ⁱⁱⁱ Specify length and material for sampler suction line
 - ^{iv} Specify type of strainer for sampler suction line
 - ^v Specify bottle or bottles required

™- General Electric

REQUESTED INFORMATION

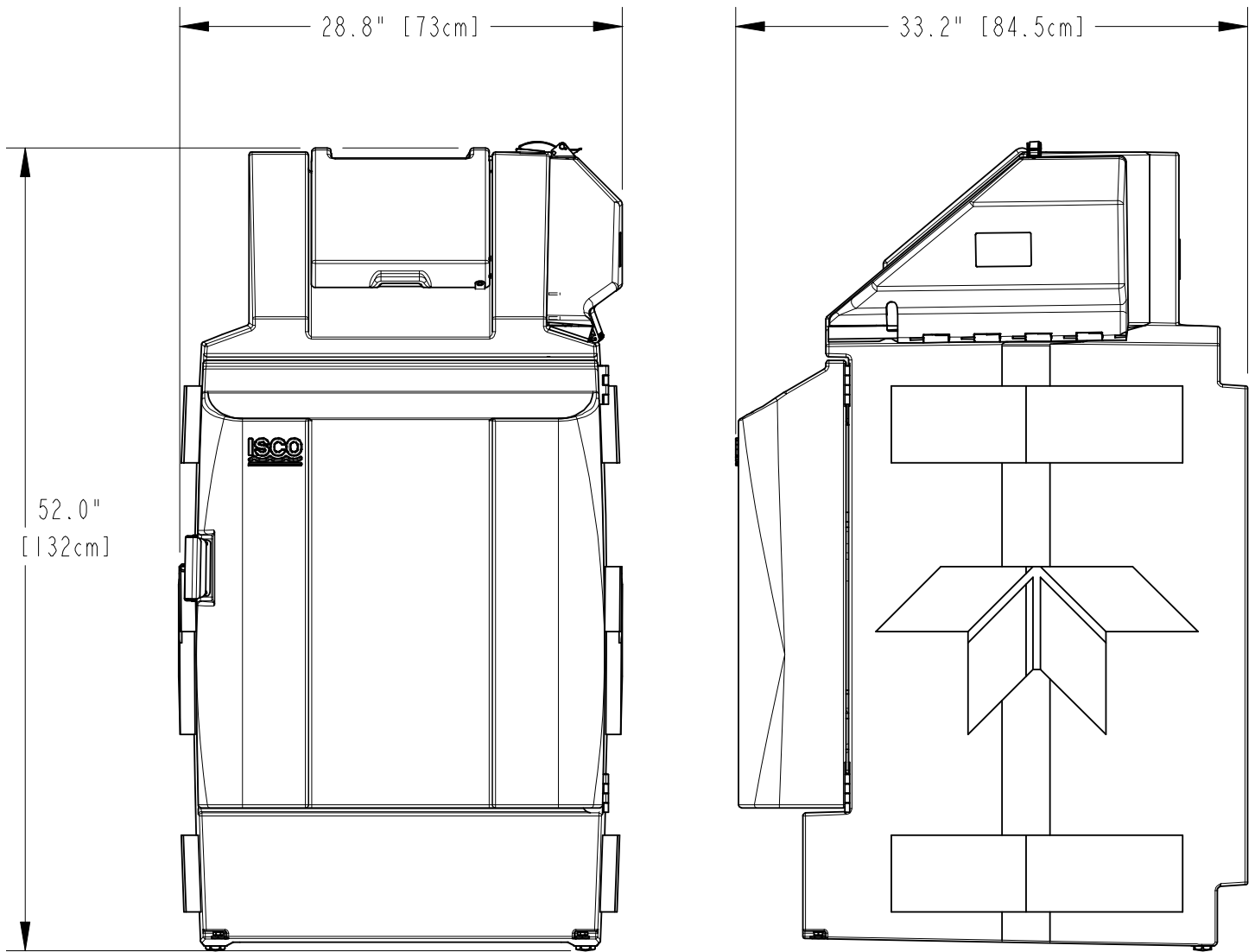
PRICE FOR SAMPLER AS SPECIFIED \$ _____

DELIVERY TIME AFTER RECEIPT OF ORDER _____

DESCRIPTION OF SAMPLER BID _____

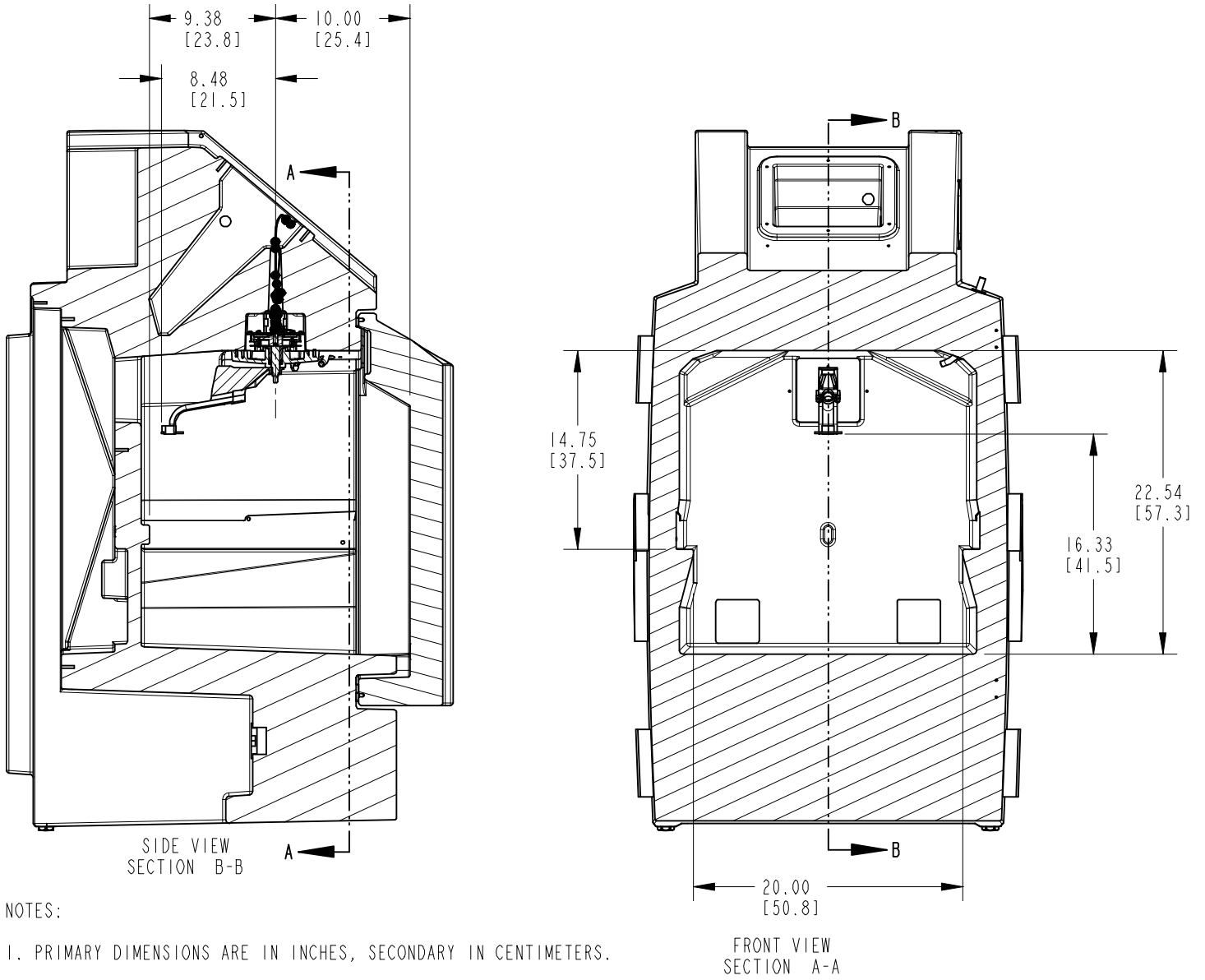
INCLUDE ALL WARRANTY INFORMATION

5800 Refrigerated Wastewater Sampler



5800 REFRIGERATED SAMPLER TECHNICAL INFORMATION	
WEIGHT(DRY)	185 lbs. [84 kg]
POWER REQUIREMENTS	115V 60Hz, OR 230V 50Hz
ELECTRICAL CONNECTIONS	FLOW METERS/ALARMS - 16 CONDUCTOR PLUG PROVIDES CONNECTION TO FLOW METER OR ALARM OUTPUTS
OPTIONAL PUMP HEATER	115V 60Hz OR 230V 50Hz

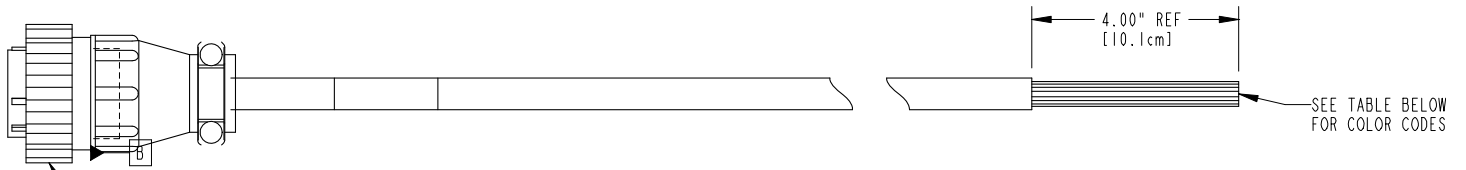
5800 Sampler Bottle Compartment



NOTES:

- I. PRIMARY DIMENSIONS ARE IN INCHES, SECONDARY IN CENTIMETERS.
- I. DISTRIBUTOR ARM IS SHOWN IN PARALLEL POSITION IN SIDE VIEW.

5800 Sampler Cable Connector Pins



5800 SAMPLER CABLE (SOLD SEPARATELY)
 LENGTH: 10.0' [3.0m]
 PART NUMBER: 694704041

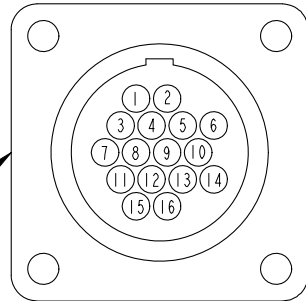
NOTE THAT CABLES ARE NOT INCLUDED WITH THE SAMPLER AND MUST BE PURCHASED SEPARATELY.

STANDARD CABLES ALSO AVAILABLE:

- 1) 5800 SAMPLER TO ISCO FLOW METER (6 PIN)
 LENGTH: 25.0' [7.6m]
 PART NUMBER: 695804043
- 2) 5800 SAMPLER TO SERIAL COMPUTER (9 PIN)
 LENGTH: 12.5' [3.8m]
 PART NUMBER: 695804042

CUP SIDE VIEW

16 PIN CONNECTOR
 ON 5800 SAMPLER
 BACK SIDE



5800 16 PIN FUNCTIONALITY TABLE		
PIN #	FUNCTION	UNIVERSAL CABLE COLOR CODE
1	12V TO FLOW METER	BLACK
2	GROUND TO FLOW METER	WHITE
3	FLOW PULSE INPUT FROM FLOW METER	GREEN
4	SERIAL (INTERROGATOR) OUTPUT AND BOTTLE NUMBER OUTPUT	BLUE
5	EVENT MARK OUTPUT TO FLOW METER	ORANGE
6	INHIBIT IN FROM FLOW METER/ SERIAL (INTERROGATOR) INPUT	RED
7	12V OUTPUT	WHITE/BLACK
8	GENERAL OUTPUT 1 - 0 to +5V DC 100 mA MAX	RED/BLACK
9	GENERAL OUTPUT 2 - 0 to +5V DC 100 mA MAX	RED/WHITE
10	GENERAL OUTPUT 3 - 0 to +5V DC 100 mA MAX	ORANGE/BLACK
11	GENERAL OUTPUT 4 - 0 to +5V DC 100 mA MAX	GREEN/BLACK
12	+ 4-20mA INPUT	GREEN/WHITE
13	- 4-20mA INPUT	BLUE/WHITE
14	GROUND	BLUE/BLACK
15	NO CONNECT	BLACK/WHITE
16	NO CONNECT	BARE

[END OF SECTION]